Steve

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

October 24, 2003

John E. Wilks, III
Scott Andrews
California Earth Corps
San Diego Office
P.O. Box 1920
Bonita, CA 91908-1920

Re: Mission Bay Landfill
EPA ID No. CAD980881353

Dear Mr. Wilks and Mr. Andrews:

Thank you for your July 30, 2003 letter requesting that EPA intervene at the Mission Bay Landfill in San Diego, California (the "Site"). This letter enclosed your May 19, 2003 letter, which requests that EPA reconsider whether to add the Site to the National Priorities List ("NPL"). Because we do not have the enclosures to your May 19, 2003 letter, as discussed in my September 19, 2003 letter to you, we cannot yet consider all of the questions you raise. But based on the information presently available to EPA, we provide the following responses:

1. May 19, 2003 letter

A. **California Earth Corps Request:** The California Earth Corps requests that your Office revisit your twice-revised toxic risk assessment given to the site of the previous Mission Bay Toxic Waste Dump and the co-located, former Solid Waste Dump in Mission Bay [State] Park. We believe a clear understanding of the area, the protocols of previous studies, and the recent investigations into the subsurface soil will indicate an immediate need to add the site to the [NPL].

EPA Response: EPA conducts a variety of investigations regarding hazardous conditions, and to be clear in regard to EPA's definitions of these investigations, EPA has not conducted a Risk Assessment for the Mission Bay Landfill. EPA has conducted a Preliminary Assessment ("PA"), two Site Inspections ("SIs"), and a SI Prioritization ("SIP"). Please refer to the enclosed fact sheet, "Site Assessment: Evaluating Risks at Superfund Sites," for an explanation of EPA's site assessment program and the focus of each investigation format.

The City of San Diego (the "City) is conducting an assessment of the Site to address present community concerns. When the City's Mission Bay Landfill Site Assessment Project is complete, EPA will use information from the City's Site assessment to evaluate current conditions at the Site and update EPA's SI Report. EPA also may obtain additional information from other sources to supplement information that the City provides. At that time EPA will be in a position to fairly reconsider the hazards associated with the Site. EPA will send you and other interested parties a copy of our updated SI Report.

B. **California Earth Corps Request:** We urgently request that your Office immediately review the just released "Results of Soil Vapor Assessment SeaWorld Expansion Plan, 16-Acre Tracts" as prepared by IT Corporation for SeaWorld in January 2002. (Enclosed at #1)

EPA Response: We have not received a copy of the enclosures to your May 19, 2003 letter. When received, we will evaluate your information for our updated SI.

C. **California Earth Corps Request:** While we do not know the test protocol or if even the same criteria were used each time, we are perplexed by the quantum change in scores. We are unaware of any remediating in the last fifty-five years. We request you provide to us any documentation which would clarify the situation. Please inform us as to the rationale behind your scoring and revisions. We are specifically interested in learning if EPA did the tests, your contractor did the tests, or if the city provided the test data for each HRS evaluation. Similarly with the identity of the laboratory performing the scientific analyses and the basis for interpretation of the data.

EPA Response: We understand you to refer to the Hazard Ranking System (HRS) scoresheets that EPA completed on June 19, 1990, August 20, 1991, and on July 30, 1993. In prioritizing sites for potential listing on the NPL, EPA uses the HRS model to interpret the site environmental data and calculate the site score. EPA obtained analytical data from the City of San Diego for consideration prior to the 1990 HRS calculation. On December 14, 1990, EPA revised the HRS formula, and the 1991 revised HRS calculation results from this change in the formula. The 1993 revised HRS calculation relies on the same formula, but considers corrections to the data, which limited the range of potential receptors. The sample results are stated in the SI Prioritization report, dated August 27, 1993 (copy enclosed). Based on information in our files, the laboratories that performed the analyses were: Science Applications, Inc. for gas sampling; Quality Assurance Laboratory for the 1989 samples for sediment and surface water; and Quality Assurance Laboratories for seep samples. There is no information in our files regarding the laboratory that performed the analyses for the 1985 samples for sediment and surface water. For additional information regarding the sampling and analyses, please contact Chris Gonaver at the San Diego Environmental Services Department at (858)573-1212.

D. **California Earth Corps Request:** The San Diego City Council has recently appointed one of our staff to the Technical Advisory Committee (TAC) on the Mission Bay Landfill. So as not to replicate work, but in order to proceed authoritatively, with foreknowledge, we request that your office affirm our understanding and provide us with documents which attest to your Office's previous involvement with assessment of the landfill.

EPA Response: Please refer to our response to Items 1.A and 1.C above.

E. **California Earth Corps Request:** For these reasons, among others, we urge your Agency to revisit its decade-old finding that the site is not worthy of Superfund Listing. If you consider all the new relative facts and developments, linked with a lack of remediation of the site in the interim, we believe you will reaffirm your original finding that the site is highly toxic and dangerous. The California Earth Corps urges you to consider this known highly contaminated site, that you previously verified contained 86 pollutants (of which 68 were EPA priority pollutants) as a candidate for inclusion on the NPL for remediation. If, in the alternative, due to funding constraints or other higher priorities, you find that the site is not eligible for immediate cleanup, then we recommend that you make an administrative finding that the site is too contaminated for use as a State Park or commercial theme Park, and therefore must be abandoned until it is remediated.

EPA Response: As explained in the enclosed fact sheet, the purpose of a Superfund site assessment is to determine whether a particular site is eligible for the NPL. As stated in our response to Item 1.A above, we are working to obtain information on current conditions at the Site to update our SI Report. Although EPA may issue administrative orders to investigate or remediate a site, EPA lacks authority and does not make administrative findings that would unilaterally redesignate appropriate land uses. When EPA lists a Site on the NPL and subsequently undertakes a remedial action, such redesignation or other limitation on land use may occur in the course of implementing a remedial activity for the site. But based on EPA's current information, EPA does not anticipate adding this Site to the NPL.

2. July 30, 2003 letter

A. **California Earth Corps Request:** In view of the fact that we have not received a response to our letter of May 19, 2003, (refer to Enclosure A), we are now providing you with additional information that has only now come to our attention. **The failure of the lead enforcement agent, the city of San Diego, and the continued failure of the Regional Water Quality Control Board (RWQCB) to comply with your contractor's conditions, linked with the continued development on and around the toxic waste dump, demands your review of this matter and possible issuance of emergency orders.**

EPA Response: EPA's role at the Site is to conduct remedial site assessment activities and determine the Site's eligibility for and priority within the NPL. EPA will review the data received in the course of the anticipated Site assessment, correct erroneous data (as you allege regarding item #15 of the rationale for the June 1990 HRS Scoresheet), and reevaluate the Site as appropriate.

B. **California Earth Corps Request:** A clear risk management failure continues by the lead enforcement agent. To date, a model airplane club operates atop the dump site, with the blessing of the city for recent improvements. Immediately adjacent to the north is a sandy beach which the city has recently expanded and cleared of weeds in a effort to attract more sunbathers and swimmers. Finally, the boat launch ramp, built at the expense of one fatality and seven hospitalizations in 1988, due to H2S, is in full use by unknowing members of the public. **The environment as well as the citizens are at increasing risk by the current practices and long standing policy of the property owner, the city of San Diego. We urge the EPA to take positive measures to preclude a disastrous release!**

EPA Response: We understand the City and its contractor are preparing a sampling and analysis plan for the Site which will be reviewed by the TAC, the RWQCB, and the Solid Waste Local Enforcement Agency. Our understanding is that the target date for the sampling and analysis plan to be implemented is February 2004 and that the results are to be reported in July 2004. We can make a determination regarding the need for future EPA involvement at the Site based on these sampling and analysis results.

If you have any questions about this information, please contact me at (415)972-3098.

Sincerely,

Philip Armstrong
Site Assessment Manager
Superfund Site Assessment Program

Enclosures

cc: Carolyn Lieberman, U.S. Fish & Wildlife Service, w/enclosures and incoming letters
Ellen Oppenheim, San Diego Parks and Recreation Department, w/enclosures and incoming letters
Michael Behan, San Diego Parks and Recreation Department, w/enclosures and incoming letters
Richard Hays, San Diego Environmental Services Department, w/enclosures and incoming letters
Chris Gonaver, San Diego Environmental Services Department, w/enclosures and incoming letters
Brian McDaniel, Regional Water Quality Control Board, w/enclosures and incoming letters
Rebecca Lafreniere, Solid Waste Local Enforcement Agency, w/enclosures and incoming letters
Gary Hartnett, Air Pollution Control District, w/enclosures and incoming letters
Nennet Alvarez, Department of Toxic Substances Control, w/enclosures and incoming letters

ecology and environment, inc.
160 SPEAR STREET, SAN FRANCISCO, CALIFORNIA 94105, TEL. 415/777-2811
International Specialists in the Environment

*****CONFIDENTIAL*****PREDECISIONAL DOCUMENT*****

LSI PRIORITIZATION CRITERIA

SUBMITTED TO: M.V. Cummings, Site Assessment Manager, EPA Region IX

PREPARED BY: Kate Dragolovich, Ecology and Environment, Inc. KD

THROUGH: Lorene Flaming, Ecology and Environment, Inc.

DATE: June 29, 1990

SITE: Mission Bay Landfill, located between Mission Bay and the San Diego River Flood Control Channel, San Diego, California, San Diego County

EPA ID#: CAD980881353

FIT REVIEW/CONCURRENCE: James M. James 6/29/90

cc: FIT Master File

Ecology and Environment, Inc.'s Field Investigation Team (E & E FIT) evaluated each of the following criteria in order to assist the U.S. Environmental Protection Agency (EPA) in determining if this site is appropriate for LSI consideration.

PROFILE OF SITE

The Mission Bay Landfill site occupies 115 acres on the southeast shore of Mission Bay immediately west of the city of San Diego, California. The site is bounded by Mission Bay to the north, Sea World Aquatic Park to the west, the San Diego River Flood Control Channel to the south, and Interstate 5 to the east (1,10) (see Figure 1, Site Location Map).

From 1952 to 1959 the City of San Diego operated an unregulated landfill at the site. Available information indicates that waste acids, alkaline solutions, solvents, and paints were disposed of at the site during the landfill's seven years of operation (1).

The abandoned landfill has been covered with dredged material from

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4. ON-SITE EXPOSURE

The potential for on-site exposure is high due to the presence of 115 acres of contaminated refuse and the accessibility of the landfill to the public. The unfinished boat launching basin is fenced, but the rest of the site is not (2). The site is located only 0.5 miles west of the densely populated residential areas of the city of San Diego. There are approximately 23,180 people living within 1 mile of the landfill (4,6,7).

OTHER AGENCY INVOLVEMENT

1. PRESENT AND FUTURE STATE INVOLVEMENT

In 1985 the California Regional Water Quality Control Board, San Diego Region (RWQCB), issued closure requirements for the landfill. These requirements include specifications for an ongoing monitoring and reporting program (14). The site owner, the City of San Diego, has complied with these requirements by testing the surface water of Mission Bay semi-annually and the groundwater beneath the site annually (15). In addition, the City of San Diego performed a Solid Waste Assessment Test (SWAT) for the landfill and submitted the SWAT report in June 1988 (16). However, to date, RWQCB has not reviewed the results of the ongoing surface water and groundwater monitoring program, the 1988 SWAT report, or the results of a one-time water and soil sampling effort that was conducted in the boat launching basin area in 1989. According to RWQCB, its lack of involvement concerning the site is due to a manpower shortage within the agency. RWQCB has no plans to address issues at the site in the future (17).

The California Department of Health Services, Long Beach office (DHS), conducted a Preliminary Assessment of the site in February 1987. The report concluded that the landfill is not a source of contamination to the surrounding environment. DHS subsequently signed over responsiblity for overseeing the site to the site owner, the City of San Diego, with supervision provided by the San Diego County Environmental Health Department (18). The Mission Bay Landfill site has not been included in the California Bond Expenditure Plan, as of the June 10, 1990 update (19).

2. OTHER REGULATORY AGENCY INVOLVEMENT

The San Diego County Environmental Health Department (County Health) is monitoring the City of San Diego's activities at the site regarding the construction of the boat lauching basin. County Health has reviewed results of a one-time sampling effort that was conducted in the unfinished boat launching area in 1989. According to County Health, no volatile or semi-volatile compounds were detected in samples that were collected from liquid that was seeping out of the cut bank of the landfill. Heavy metals were detected, but not at concentrations above background. Based on these results, County Health conc conditions in the basin were not hazardous and that cor could resume (2,4).

COMPLETE DOCUMENT AVAILABLE

kd/mbl/prior

SWAPE LLC
Soil Water Air Protection Enterprise
201 Wilshire Boulevard, Second Floor
Santa Monica California 90401

July 21, 2003

To: California Earth Corps
Don May
4927 Mintum Avenue
Lakewood, California 90712

Re: Hydrogen Sulfide and Methane at Mission Bay Landfill

Dear Mr. May:

My name is Paul Rosenfeld and I work for SWAPE LLC. I have a Ph.D. in Soil Chemistry from the University of Washington in Seattle, Washington. I am now an Adjunct Professor at the University of California, Los Angeles, teaching courses in Environmental Health Science. I have conducted human health risk assessments for various properties contaminated with a variety of contaminants including pesticides, polychlorinated biphenols, volatile organic compounds, semi-volatile organic compounds, and heavy metals. I have taught courses with the California Integrated Waste Management Board on alternative landfill cover design and I have worked at several different landfill facilities. I have also worked for the United States Navy Base Realignment and Closure (BRAC) Program and spent much of my time investigating contaminated buried material.

I have reviewed several articles discussing the contaminants at the Mission Bay Landfill and recognize that there are high methane and hydrogen sulfide concentrations in the subsurface soils that pose a threat to human health and the environment. The proposed ride "Voyage To Atlantis" also referred to as "Splash Down Thrill Ride" will be located very close to extremely high concentrations of hydrogen sulfide and methane that pose an immediate high risk to human health and the environment.

IT Corporation (2002) reported that vapor probe J-24 had a hydrogen sulfide concentration of 1820 ppmv. This location is approximately 315 feet away from the entrance of the proposed ride. On December 20 and 23, 1996 wells LE-1, LE-2 and LE-3 were drilled and installed in the lease expansion area. During the drilling LE-4, on December 23, hydrogen sulfide gas was detected at concentrations as high as 9 ppm and methane was detected at a maximum of 1,000 ppm (Flour Daniel GTI, 1997).

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Corporation went on to recommend "If the landfill and surrounding land is paved with materials that are impermeable to landfill gas, then there is potential to increase the effective seal of ground surface. This could result in increased concentrations of landfill gas accumulating within soil vapor." Hence, landfill settling, an earthquake, or liquefaction will likely create a pathway resulting in a hydrogen sulfide vapor release that will threaten human health and the environment.

Respectfully,

Paul Rosenfeld

Paul Rosenfeld Ph.D.
SWAPE LLC

REFERENCES:

Christian Wheeler (2002) "Report of Preliminary Geotechnical Investigation, Sea World Atlantis Project San Diego California." May 31.

Flour Daniel GTI (1996) ": Assessment Report Sea World Lease Expansion 1720 South Shores Road, San Diego California," Project Number 023450021. June 9th.

NIOSH [1979]. Criteria for a recommended standard: working in confined spaces. Morgantown, WV: U.S. Department of Health, Education, and Welfare, Public Health Service, Centers for Disease Control, National Institute for OccupationalSafety and Health, DHEW (NIOSH) Publication No. 80-106.

NIOSH [1985a]. NIOSH pocket guide to chemical hazards. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS [NIOSH] Publication No. 85-114.

NIOSH/OSHA [1981]. Occupational health guidelines for chemical hazards. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication.

IT Corporation (2002) Results of Soil Vapor Assessment Seaworld Expansion Plan, 16-Acre Tract. Project Number 830418.

EXHIBIT E

CONCLUSIONS & RECOMMENDATIONS

The California Earth Corps is concerned with City's denial of the potential safety risks and its long term pattern of conduct which is characterized by not addressing the contamination. Site monitoring is ever less frequent, encompasses fewer testing sites, is conducted at shallower depths, and directed toward far less problematic substances. Nevertheless, we note wildlife discoffs and deformities. We note also that tests after the EPA site re-scoring reveal groundwater migration of toxics toward five major water bodies from the unlined toxic facility.

We are concerned with the adequacy and partiality of the City functioning as landlord, leasing agent, and beneficiary of any tax revenue generated from the new construction underway. It appears to us that the City may be conflicted in this time of revenue shortfalls and may not be able to objectively access health and safety risks posed by the hydrogen sulfide. The City also seems oblivious to the deterioration of metal barrels of hazardous material in the subsurface.

For these reasons, among others, we urge your Agency to revisit its decade-old finding that the site is not worthy of Superfund Listing. If you consider all the new relative facts and developments, linked with a lack of remediation of the site in the interim, we believe you will reaffirm your original finding that the site is highly toxic and dangerous. The California Earth Corps urges you to consider this known highly contaminated site, that you previously verified contained 86 pollutants (of which 68 were EPA priority pollutants) as a candidate for inclusion on the National Priority Listing (NPL) for remediation. If , in the alternative, due to funding constraints or other higher priorities, you find that the site is not eligible for immediate cleanup, then we recommend that you make an administrative finding that the site is too contaminated for use as a State Park or commercial theme Park, and therefore must be abandoned until it is rehabilitated.

Sincerely,

/s/

John E. Wilks, III
Member,
California Earth Corps
(619) 761-8227

/s/

Scott Andrews
Member,
California Earth Corps
(619) 544-6816

Enclosures
1-Study, TI Corp, 01/02
2-Letter, DTSC, SD. 5/14/03
3-Recapitualtion, Substances 11/83
4-Area Maps (5each)
- a. Mission Bay Park
- b. Mission Bay State Park
- c. Selected Ground Water Results (ERCE)
- d. Topo. Landfill (Fig. 4.11-1)
- e. Aerial. Mission Bay Landfill 2/99

CC
Air Pollution Control District, SD

(2) the level of toxicity is such that a total of 86 site EPA -regulated pollutants has been identified--including heavy metals, industrial solvents, volatile organic chemicals, pcbs, and pesticides.

(3) three of the six test wells used in the 1983 WCC study were mysteriously vandalized prior to the 2001 study. This illegal conduct resulted in their not being available for subsequent scientific sampling so as to remove 50% of the test wells from the study. This ultimately precluded meaningful historical comparative trend analysis. Note: The Corps recommends that these wells be rehabilitated and used in future comparative testing and sampling

(4) other site risk and liability issues are posed by known presence of methane and hydrogen sulfide gases. By a just-concluded study of soil gas, shallow probe testing in close proximity to the permit site, conducted by the city of San Diego, Solid Waste Local Enforcement Agency, (Environmental Health), a concentration of methane gas at the 10% level was recorded..

Note 1: Levels of 5% are considered potentially explosive!
Note 2: This test result was announced at the Technical Advisory Committee (TAC) of the Mission Bay Landfill as co-chaired by Council persons D. Frye & M. Zucchet.

(5) in the Fluor Daniel GTI assessment report, dated 06/09/97, of the SeaWorld Lease Expansion, it was reported that well (LE-1), near the proposed parking lot site, registered the presence of 1,1,1-trichloroethane. In fact, five of six wells indicated a plume of trichloroethane the study attributed to former aerospace activity: "The chemical compound is widely used as a solvent in the aerospace industry. The contaminant appears to be widely dispersed in a relative uniform concentration, consistent with dated landfill disposal of barrels in a corrosive environment."

The same dewatering operation for the Wild Arctic Project is now occuring with the Splashdown Thrill Ride, a.k.a. Roller Coaster. SeaWorld's contractor alerted SeaWorld, who in turn registered concern with the City about an identified "contaminated plume" migrating toward its then east leasehold line.

As there has been no remediating of either the toxic waste dump, or the landfill in the interim, there are valid concerns for public safety and health. Indeed, more rusting of barrels submerged below the salt water table may well have exacerbated the situation since 1959.

It is critical to know the extent of a large toxic repository inside a public park. Public safety and the precautionary public health principal demand that the toxic deposits in a public park, visited by 15,000,000 annually, as well as the near-by beach shore, which are visited by 14,000,000 people annually, be located and remediated.

Further, not only were the toxic wastes deposited at the site from 1952-1959 by local defense contractors, agents of the federal Government, but also the US military and "other Government Agencies" openly and lawfully deposited liquid and solid wastes in an unfenced, unmarked, unmanaged open space. We must be mindful that during this period the military developed and deployed within San Diego County nuclear propulsion for surface and subsurface vessels and that the Army developed nuclear antiaircraft air defense missiles. Also the local defense contractors in San Diego were prime contractors in the design, testing, and production of the these items for the entire Department of Defense. The majority of these contractors were located within one mile from the Mission Bay (class i) dump site!

We prefer to focus your initial investigations or concerns on the SeaWorld Leasehold and the adjacent parcel. Nevertheless, near the general vicinity of the proposed parking lot (e.g. along the railroad line, east of Highway I-5, near the San Diego River, approximately 1/2 mile away) was a likely, yet unauthorized, depository area. (Refer to test results from test well MW-1 that shows numerous toxins near residential Bay Park). We have established the closing date of the toxic waste dump as 12/07/59, the opening date of the South Miramar dump site.

INVOLVEMENT OF DEFENSE CONTRACTORS

Major defense contractors that used the toxic waste dump included, but were not limited to: Rohr Aircraft Corp., Ryan Aeronautical Co. later known as Ryan Industries, Consolidated Vultee, Convair, and Solar. These firms also hired contractors to haul the hazardous materials. Additionally, the navy aircraft overhaul depot at NAS North Island and the Fleet aircraft activities ar NAS Miramar may well have contributed toxic substances to this site.

ROLE OF THE STATE OF CALIFORNIA

Therefore, it is inappropriate for the California Coastal Commission or other State regulatory bodies to proceed when a federal regulatory body is charged under the United Stated Code and the Code of Federal regulations with supervising the remediating of this toxic area.
We are also cognizant that only after the Army Corps of Engineers completed major flood control project for the San Diego River in 1945 that the State was given title of the area in 1946. We believe Federal involvement in the continued monitoring and evaluation of the toxic wastes deposited prior to that date by Federal agencies or their instrumentality is appropriate.

ROLE OF THE CITY OF SAN DIEGO

The City of San Diego is currently undertaking a site assessment study. On 04/25/03, a representative of the local Sierra Club chapter was installed as a member of the city's Technical Advisory Committee on the Mission Bay (State) Park Landfill. Work to define the nature and extent of the landfill and toxic waste dump continues.

ROLE OF OF THE CALIFORNIA EARTH CORPS

A. The Earth Corps has original research on this matter. It has documentary evidence that:

(1) the inventory of the Mission Bay Park Class I Toxic Industrial Waste Dump site was 5,000,000+ gallons, not 737,000 gallons, as stated by staff and the city, i indiscriminately dumped in the immediate permit area as evidenced by test well LE-1, and monitoring wells MW-23, MW-24, and MW-25.

We need to know where, how, and for what the Federal EPA tested for contamination, in order to assure ourselves that we know the risks to the public. We must remember that this area is a State Park which is designed and exists solely for the recreational enjoyment of the public. The delayed disclosure by the City of San Diego of the IT Corporation study prepared for SeaWorld is a development which has made us apprehensive about both park goers and the ongoing expansion activities of SeaWorld. As we write this letter, excavation and evacuation of soil, incidental to construction of a roller coaster is ongoing, in the potentially contaminated area. No remediating of any soil *in situ* or removed, is contemplated by the City.

CALL TO ACTION

We believe the body of information known, unknown, and known but not disclosed, to all parties-in-interest to include health & safety regulators, is insufficient to assure public safety during construction activities. SeaWorld has permits to construct high-rise fourteen structures and plans on building a convention center and hotel. It is not inconceivable that continuous construction will occur throughout the next ten years. This is the eighth expansion of SeaWorld.

We further believe time is of essence. We would regret , but not be surprised if a lethal release of gases and other contaminate occurred at any moment. (In 1989, a hydrogen sulfide gas release during construction of the South Shores boat launch area resulted in eight hospitalizations and one fatality. Another concentration of the same gas has now been found within the same vicinity.)

Finally, we are very concerned that site toxins are leeching into the impaired water bodies of the adjacent San Diego River and Mission Bay Estuary, Famosa Slough, and the Pacific Ocean. Recently, fish have been found with sores and other genetic deformities.

ROLE OF THE FEDERAL GOVERNMENT

We believe the Federal Government retains sole regulatory jurisdiction over the site near the recent finding of 1,820 ppm of H2S. The Federal Government with the Department of the Interior's Environmental Protection Agency (EPA) as the lead entity. We strongly believe that this site is within a Super Fund eligible area.

We are convinced that the toxics are migrating. We do not know, but we suspect that the toxins are entered the Pacific Ocean. Only additional tests will show conclusively the degree each of those phenomenon are occurring.

We are differentiating between the Mission Bay Solid Landfill, (Classes II & III), and the Toxic Waste Dump Site, (Class I). City documents and testimony continuously merge these sites and obscure the important distinction between these closed, but active emitters. The sad fact of the matter is no one knows for sure the exact boundaries of the approved dumping area or the locations of clandestine, illegal dumping. The long-standing record reveals that dumping of toxic wastes was indiscriminate from 1952-1959 throughout the South Shores area of the State Park. Absence of records of another Class I site makes it likely that high quantity dumping here also occurred throughout W.W.II and the postwar years, sourced by nearby aerospace industry plants.

DOCUMENTED LETHAL CONCENTRATION

We wish to bring to your attention a disturbing, recent development with regard to the subsurface chemical activity in the area. **The enclosed study reflects that in one test well (J-24) in the SeaWorld guest parking lot, a concentration of over 1,000 ppm of hydrogen sulfide (H2S) was found within the past fourteen months. As this poses a significant potential lethal hazard to public health and safety, we have recently reported this disturbing finding to your colleagues in the State of California's Toxic Substances Control Office.** (Refer to enclosure #2) We intend to make a report of this finding to the Air Pollution Control District, County of San Diego within the next few days.

We believe that the unknown information is far greater than the documented information. Our affiliates in the environmental movement have been researching for more than four years to patch together even this preliminary understanding of the site and its use from 1939 to present.

There are two waste facilities at issue: an industrial toxic waste dump and a solid waste landfill. Some portion of both are superimposed. We wish to direct your attention to a recapitulation of substances reported in a 1983 site assessment performed for EPA Priority Pollutants. (Refer to enclosure #3). The value of this document is twofold; (1) it lists the toxic chemicals and carcinogens, and (2) it dramatically illustrates the stratified nature of the site. This is particularly important to notice as we have disturbing trends in subsequent tests. The city and its leasee continue to perform less frequent testing, shallower testing, and more restricted testing. In one instance, a magnetometer was used to locate buried metal objects. Drilling then proceeded away from the metal so as to avoid discovery of contaminants and any necessary remediating. We believe it is time for the City to confront the poisons at this area and for remediating to begin.

DISPOSITION OF BURIED HAZARD MATERIALS

The historical record shows that neither the Toxic Waste Dump, nor landfill was fenced. The toxic dump's footprint is believed to be over a vast area, within a location known as South Shores, or currently the SeaWorld leasehold, and isolated places east of Highway I-5. **The areas where thousands of 55-gallon drums of hazardous waste were buried beneath the water table (In 1952 through 1959) remains largely undetermined;** the area where the remainder two thirds of all waste was deposited by surface or trench dumping is much larger.
(Refer to area maps enclosure #4a,b,c,d;e.). We caution: **In our view, it would be a gross error to rely on maps of the soil waste dump furnished by the City and represented to be the sole site of potential contamination.** In our dealings with the City, the current regime seems intent on limiting investigation or discussion to that area encompassed by an area map labeled, "approximate limits of landfill."

We must be mindful that the toxic dumping in W.W.II & the Cold War (1952-1959) was unrestricted, and continuous, seven days weekly, 24-hour each day.

BACKGROUND

With respect to your Office's assessment and study of this site, we understand that the initial point score (CERCLIS identification number CAD980881353) awarded the site by the Federal EPA was 61.61 in 1990. This Hazard Ranking System (HRS) score, equal to the infamous Stringfellow Dump in Riverside, CA., solidly implied eligibility for the National Priorities List (NPL). Shortly thereafter, a second LSI Prioritization Criteria report was issued. In it the HRS score of 61.61 received justification, and several additional factors were addressed. Under the "Target Population" heading, it was noted that 243,000 people live within four miles of the site. In addition, several nearby endangered species and sensitive environments were identified. When inexplicably rescoring the site in 1991, the EPA revised the point value to 49.06. Nevertheless the revised score warranted listing on the NLP. A second restoring occured (for reasons unknown) in which the findings were further reduced to 14.01 in 1993. The entity performing the third series of tests elected not to include entire pathways of exposure. This election resulted undoubtedly in lower scores, but also made comparisons with the two earlier tests impossible.

The California Earth Corps is very uncomfortable with the unexplained course of retesting. We challenge the purpose or the need for the testing aas well as the findings. We suspect that the City or one of its contractors provided flawed data to the EPA for its evaluation. Now comes a recent revealation that a scientifically **documented lethal level of hydrogen sulfide (H2S), within ten feet of the parking lot surface in the SeaWorld guest** parking area, has been found. We are appalled that this danger emanating from the toxic waste /solid waste site exists. We are outraged that the finding was made more than fourteen months ago, but the information has not been released by the city and SeaWorkd or acted upon, to our knowledge.

We must relay on the EPA to assure a standard of scientific integrity. It is our experience that the City of San Diego and its leasees have historically downplayed the potential risks of any contamination. In fact, the City chooses to call the site a former solid waste landfill, while completely ignoring wide toxic dispersal.

While we do not know the test protocol or if even the same criteria were used each time, we are perplexed by the quantum change in scores. We are unaware of any remediating in the last fifty-five years. We request you provide to us any documentation which would clarify the situation. Please inform us as to the rationale behind your scoring and revisions. We are specifically interested in learning if the EPA did the tests, your contractor did the tests, or if the city provided the test data for each HRS evaluation. Similarly with the identify of the laboratory performing the scientific analyses and the basis for interpretation of the data.

We are hopeful that the alarming revelation that a lethal concentration of hydrogen sulfide gas (H2S) is present in this public park will prompt the Federal EPA to revisit its findings, with an eye toward reaffirming its initial site risk assessment score of 61.61 and listing the site on the NPL.
In addition, we hope that your Office call the City of San Diego to task to explain its apparent neglect to monitor the site and act responsibility when new evidence of dangerous contamination is documented.

The San Diego City Council has recently appointed one of our staff to the Technical Advisory Committee(TAC) on the Mission Bay Landfill. So as not to replicate work, but in order to proceed authoritatively, with foreknowledge, we request that your Office affirm our understanding and provide us with documents which attest to your Office's previous involvement with assessment of the landfill.

CALIFORNIA EARTH CORPS
San Diego Office
Post Office Box 1920
Bonita, CA 91908-1920

May 19, 2003

U. S. Department of the Interior
Environmental Protective Agency
Pacific SW Regional Office
75 Hawthorne Street
Attn.: Keith Takata, Director (SFD-1)
San Francisco, CA 94105

Re: Request for Review of EPA's Decision not to Include the former Mission Bay Toxic Waste Dump and co-located Solid Waste Facility on the Superfund List, and Transmittal of Information regarding a Clear and Present Danger at the Site.

Dear Director Takata:

PURPOSE

The California Earth Corps requests that your Office revisit your toxic risk twice-revised assessment given to the site of the previous Mission Bay Toxic Waste Dump and the co-located, former Solid Waste Dump in Mission Bay (State) Park. We believe a clear understanding of the history of the area, the protocols of previous studies, and the recent investigations into the subsurface soil will indicate an immediate need to add the site to the National Priority List.

INTRODUCTION

We urgently request that your Office immediately review the just released "Results of Soil Vapor Assessment SeaWorld Expansion Plan, 16-Acre Tracts" as prepared by IT Corporation for SeaWorld in January 2002. (Enclosed at #1)

This study has been withheld from not only the public domain, but also the Technical Advisory Committee on the Mission Bay Landfill. As a member of the Committee, it appears to the Corps that this is only the latest in a fifty year campaign of obfuscation by the City of San Diego on this public safety issue. The City of San Diego is the trustee of the entire Mission Bay State Park. It gained control of the Park from the State of California which, in turn, acquired the land from the Army Corps of Engineers in 1946. The Federal Government, either in the form of the Uniformed Services or its contractors, deposited hazardous waste material in the Park. In 1952-1959, this practice continued, under the supervision of the city at its formerly established Mission Bay Toxic Waste Dump (class 1).

We believe that the EPA now has more of a role in this matter than assuring regulatory compliance with of Federal Laws. The EPA may need to act as the lead agency in the investigation of subsoils, water, and air and the remediation of the three-dimensional area contaminated by the Federal Government. This is a key issue, **as we believe the City is now attempting to literally sweep this issue "under the carpet" or asphalt of a parking lot! By the continuing lease the real estate and granting construction permits for buildout of the area with high-rise structures.**

appropriate. Mission Bay Park has been forced by the lead agent since 1941 to host a sewage sludge pond treatment facility, garbage landfill, and toxic dump. We urge you to direct your staff to review this matter with an emphasis on regulatory compliance and public safety.

Sincerely,

John E. Wilks, III
(619) 671-8227

Scott Andrews
(619) 544-6816

Enclosures
A--Letter, Earth Corps, 05/19/03
B--Summary Score sheet, 06/19/90
C--Memorandum, Ecology and Environment, Inc. 06/29/90
D--Digital Photographs
E--Opinion, SWAPE LLC, 07/21/03

monitoring. Although they have recently retiled it to include the word "hazardous", The Water Board is reluctant to reclassify the toxic waste site as a Class I dump. This is significant as the landfill is inactive yet not closed. We find this inconsistent with the fact the site still contains millions of gallons of 86 EPA-identified pollutants.

By a careful read of your contractor's preliminary remarks on the 6/19/90 scoring sheet, it appears that sources did not fully disclose information to the evaluator, your contractor. For example, the comments on item #15 are patently wrong. Commercial sport fishing based in Mission Bay has been continuously practiced in the Pacific Ocean, just 1/2 mile from the dump site. Also, SeaWorld in all of its three configurations (marine educational, research, recreational) as of the evaluation date, always used the waters of the Bay and Ocean for industrial purposes.

We add that the toxic dump has never been lined and that it may leak into the waters of the San Diego River, Mission Bay, Famosa Slough, and the adjacent waters of the Pacific Ocean.

Aeration exposure from jet skis, power boats, and water skiing remains a serious public health concern. In our opinion, prolonged exposure in that vein exceeds the "incidental ingestion" exposure provided for in the EPA's doctrinal guidelines. Recreational skin contact exposure and food chain pathway contamination are real issues that have never been adequacy addressed by the City or regulators. Tests currently being performed fail to include detection of heavy metals or sediment contamination. The City has suspended those tests!

We appreciate your time on this matter. As our organization continues to unearth relevant documentary evidence, we will provide you with our findings as

Another development project in the permit process, The Promenade, is immediately adjacent to the landfill's north. It features public access pedestrian facilities as a condition to the CA Coastal Commission. In our opinion this project should prompt urgent review of the known toxic waste hazards with respect to excavations of the non-engineeered dredge soils in the area.

In mid-July 2003, the city contracted with Environmental Business Solutions (SCS Engineers) to conduct a site assessment, of the Mission Bay Landfill, for the presence and disposition of toxics, and to define the precise boundaries of the landfill. We note with chagrin that the location and disposition of the toxic waste dump was not separately delineated in the study proposal as a primary goal. Although work has begun, no Scope of Work has been provided to the Technical Advisory Committee or released to the public.

CA Earth Corps is alarmed that the study did not precede current area construction and development, and that the Scope of Work may confine the study area to that 115 area parcel that has traditionally been asserted, without scientific basis, to be the extent of the sanitary landfill.

CA Earth Corps believes it is prudent to impose a moratorium on new construction, development, and excavation in the study area at least until preliminary findings are published. Regrettably, the city continues to approve construction permits submitted by SeaWorld, and the CA Coastal Commission received a new permit application from SeaWorld on July 1, 2003.(Refer to Enclosure D).

CA Earth Corps, in preparation for filing a Petition-for-Revocation, before the Coastal Commission, recently retained a chemical soils expert to review the historical studies and data, and to render a professional, technical opinion. We provide you, as enclosed herein, the finding of Paul Rosenfeld, Ph.D. of SWAPE LLC. dated July 21, 2003. (Refer to Enclosure E).

We conclude with a recital of the sordid role that the Regional Water Quality Control Board has apparently played in the obfuscation of this public health issue. In direct discussion with Water Board Officials we have learned that they have continued to ratify the LEA's decision to reduce the frequency of testing and the extent of site

California Earth Corps
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U.S. Department of Interior
Environmental Protective Agency
Pacific SW Regional Office
75 Hawthorne Street
Attn.: Keith Takata, Director (SFD-1)
San Francisco, CA 94105

July 30, 2003

Re: Supplemental Information to our Letter of May 19, 2003, and Request for Intervention by EPA (EPA# CAD980881353)

Dear Director Takata:

In view of the fact that we have not received a response to our letter of May 19, 2003, (refer to Enclosure A), we are now providing you with additional information that has only now come to our attention. **The failure of the lead enforcement agent, the city of San Diego, and the continued failure of the Regional Water Quality Control Board (RWQCB) to comply with your contractor's conditions, linked with the continued development on and around the toxic waste dump, demands your review of this matter and possible issuance of emergency orders.**

The estimated 115 acres of the Mission Bay Landfill and the co-located, yet larger site of the toxic waste dump is now under development! The City of San Diego has issued several construction permits on a portion of the 115-acre site. The California Coastal Commission denied a permit, for six months, for a parking lot on May 7, 2003 when the Sierra Club filed an objection. Another nonprofit, California Earth Corps, filed a petition for the Commission July 21, 2003, to revoke a permit to build a major amusement ride in the subject area. **To date the City's tenant, Anheuser Busch Entertainment Corp., acting on behalf of SeaWorld Adventure Park, has removed more than 17,000 cubic yards of the "cover" of a site which may include both landfill and toxic waste dump deposits.** We highlight the text on page 2, item 10 of the Summary Score sheet prepared by the EPA's consultant (refer to Enclosure B). The evaluator states, **"this cover is contaminated."**

We wish you to fully understand that the city of San Diego's Parks and Recreation Department and Real Estate Assets Department are actively promoting public use at the site. The site remains unfenced and unposted. Since 1941, when the city acquired title to this property from the State of California, no active control measure has been utilized for the public or the endangered animal species that frequent this regional recreational park.

Despite the operation, for profit, by the city of a vast sanitary landfill and an unregulated toxic waste dump in Mission Bay Park, the city has never fenced or posted a facility whose On-Site Exposure Pathway received a high score of "100" during LSI review. (refer to Enclosure C)

A clear risk management failure continues by the lead enforcement agent. To date, a model airplane club operates atop the dump site, with the blessing of the city for recent improvements. Immediately adjacent to the north is a sandy beach which the city has recently expanded and cleared of weeds in an effort to attract more sunbathers and swimmers. Finally, the boat launch ramp, built at the expense of one fatality and seven hospitalizations in 1988, due to H2S, is in full use by unknowing members of the public. **The environment as well as citizens are at increasing risk by the current practices and long standing policy of the property owner, the city San Diego. We urge the EPA to take positive measures to preclude a disastrous release!**

In 1997, when a consultant for the city drilled a test well (LE-4) in this area, it encountered H2S at concentrations as high as 9 ppmv and methane at a maximum of 1,000 ppm. As an aside, five of six wells in the LE-series detected a plume of Trichloroethane, which was attributed to the former nearby aerospace industry.

The infamous test well (J-24) , as fully described in our letter to you of May 19, 2003, sits center-of-mass in the new construction area. It is of great concern that it is situated in the current visitors' parking lot. Also, aggressive development plans may change that status at any time. No steps have been taken by the City or SeaWorld to either restrict public access or remediate this area that has tested hazardous for flammable and lethal gas.

Bechtel

50 Beale Street
San Francisco, CA 94105-1895
Mailing address: P.O. Box 193965
San Francisco, CA 94119-3965

Site Inspection Prioritization

Site: Mission Bay Landfill
Between San Diego River and Mission Bay
San Diego, CA 92100

Site EPA ID Number: CAD 980881353

Work Assignment Number: 60-15-9J00, ARCSWEST Program

Submitted to: Michael Bellot
Site Assessment Manager
EPA Region IX

Thru: Rachel Loftin

Date: August 2, 1993

Prepared by: Subbu Mahadevan SM for MD

Review and Concurrence: Michele Dermer MD

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked Bechtel Environmental, Inc. (BEI) to conduct a site inspection prioritization (SIP) of the Mission Bay Landfill site in San Diego, San Diego County, Calif.

The Mission Bay Landfill site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on February 1, 1984 (CAD 980881353) (1). Available information does not indicate any specific reason the site was entered into CERCLIS.

A preliminary assessment (PA) of the Mission Bay Landfill was conducted for the EPA by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) (formerly known as the Department of Health Services, Toxic Substances Control Division) in February 1987 (2). The screening site inspection (SSI) of the Mission Bay Landfill was conducted for the EPA by Ecology and Environment, Inc. in November 1989 (3). A National Priorities List (NPL) Prioritization Criteria Memorandum was prepared by Ecology and Environment, Inc. in September 1991 (4). The purpose of the PA and SSI was to review existing information on the site and its environs to assess the threat(s), if any, posed to public health, welfare, or the environment, and to determine if further action under CERCLA/SARA is warranted.

After reviewing the PA, SSI, and NPL Prioritization Criteria Memorandum, the EPA determined that further investigation of the Mission Bay Landfill would be necessary to more completely evaluate the site using the EPA's Hazard Ranking System (HRS) criteria. The HRS assesses the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This report summarizes the results of the SIP investigation of the Mission Bay Landfill site.

1.1 Apparent Problem

The apparent problems at the site are as follows:

- The City of San Diego operated an unregulated landfill on the southeast shore of Mission Bay between 1952 and 1959. Available information indicates that up to 13,400 barrels potentially containing up to 737,000 gallons of industrial wastes consisting of waste acids, carbon tetrachloride, methyl ethyl ketone, cadmium wastes, toluene, and zinc chromate were probably disposed of in the landfill during the seven years of operation. (5)
- During regrading operations at the landfill in September 1988, hydrogen sulfide emissions from the landfill apparently caused nausea and discomfort to workers on site. (6,7)

- During an excavation activity conducted north of the landfill limits in November 1988, multicolored seepage was observed emanating from the landfill. Laboratory analyses of this seepage revealed concentrations of 1,1-dichloroethylene at 4,700 parts per billion (ppb), 1,1-dichloroethane at 550 ppb, chloroform at 40 ppb, 1,2-dichloroethane at 75 ppb, 1,1,1-trichloroethane at 9,800 ppb, and carbon tetrachloride at 450 ppb. (6)

- Laboratory analyses of a water sample collected from a pool of water to the north of the landfill limits in September 1989 revealed concentrations of chromium at 1.1 milligrams per liter (mg/l), copper at 2.0 mg/l, and silver at 2.1 mg/l. (8)

2.0 SITE DESCRIPTION

2.1 Location

Mission Bay Landfill is located between Mission Bay and the San Diego River, in San Diego, Calif. The geographic coordinates for the site are 32° 45' 43.0" N latitude and 117° 12' 45.0" W longitude (Township 16 South, Range 3 West, San Bernardino Baseline and Meridian, La Jolla, Calif., 7.5-minute quadrangle). (9) The location of the site is shown in Figure 2-1.

2.2 Site Description

The Mission Bay Landfill site is located on the southeast shore of Mission Bay in San Diego, Calif. The site is bordered on the north by Mission Bay, on the east by Interstate 5, on the south by the San Diego River, and on the west by Sea World Aquatic Park. (10)

As shown in Figure 2-2, the 115-acre site consists of an unpaved landfill and an unpaved area to the north of the landfill limits. The site currently supports a sparse growth of scrub brush and reed grasses. Sea World Drive divides the southern and eastern parts of the landfill. The area to the north of the landfill consists of a proposed boat launching basin area and two excavated areas. These three areas are separated from Mission Bay by a berm approximately 10 feet wide at the crest. Two fenced comfort stations are located to the west of the proposed boat launching basin. The site is not fenced on any side and is accessible from all sides. (10)

2.3 Operational History

The City of San Diego purchased the Mission Bay Landfill property from the California State Division of Parks in the mid-1940s and has owned the site since. Information regarding activities at the site prior to 1940 is not available at this time. (10)

The City of San Diego operated part of the site as an unregulated landfill between 1952 and 1959. The landfill was closed in December 1959. Following cessation of landfill operations, the landfill was used as a disposal site for hydraulic fill generated from the dredging of Mission Bay until 1962. Approximately 5 feet to 20 feet of hydraulic fill, consisting of saturated fine sandy silt, was placed over the landfill and adjacent areas. Available information indicates that Sea World Drive

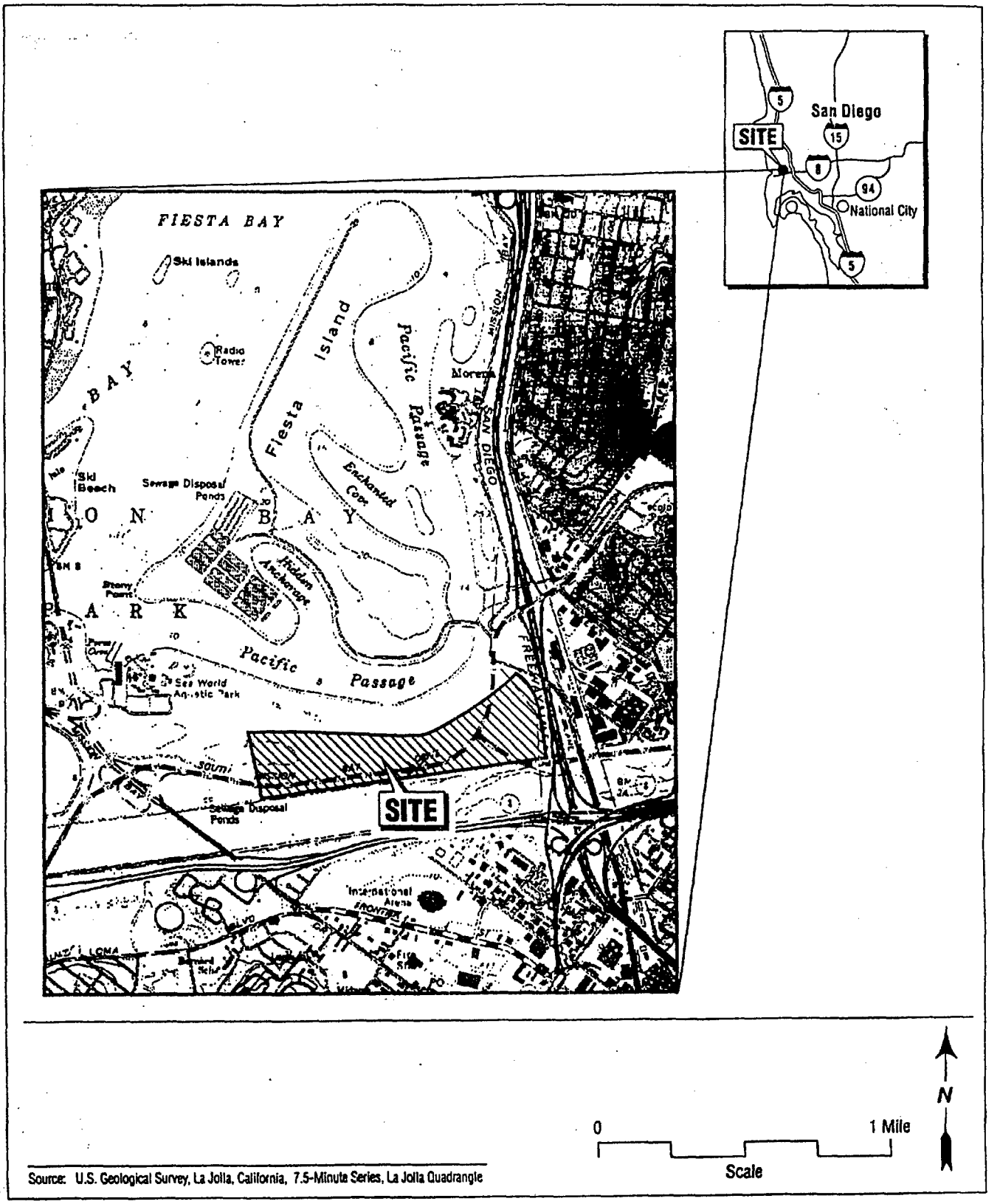


Figure 2-1 Site Location

arcs93-2310b.001 Mission Bay

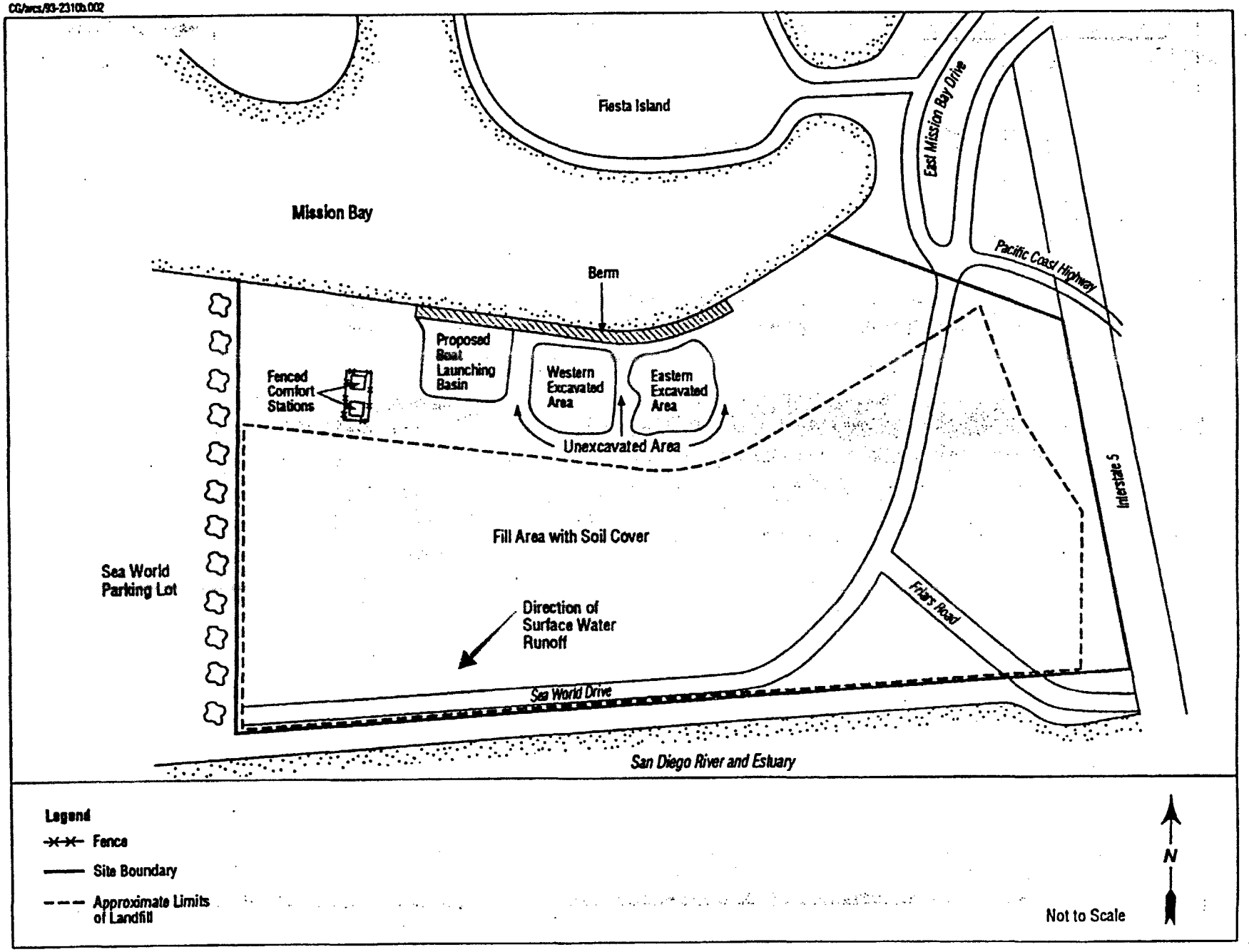


Figure 2-2 Site Layout

and Friars Road were constructed at the southern end of the landfill sometime between 1962 and 1980. Imported fill soil and additional hydraulic fill were placed on the landfill in 1980. In 1983, a private developer submitted a proposal to lease a 35-acre portion of the landfill to build a hotel complex. The City of San Diego Waste Management Department contracted with Woodward-Clyde Consultants to conduct an environmental assessment of the site and, as a result of the findings of the assessment, approved the construction of the hotel complex. However, because of financial difficulties, the hotel complex was not constructed. (10)

Currently, the site is one of the last undeveloped areas in the City of San Diego's Mission Bay Park, a recreational area that includes land, surface water, and marshland features in the Mission Bay area. The City of San Diego Parks and Recreation Department initiated Phase I of the Mission Bay South Shores Development Project in 1985. The proposed project involved the construction of a 9-acre inlet basin, a 10-lane boat launching ramp, two boarding docks, a parking lot, landscaping, and a sand dune habitat area. Phase I of the Mission Bay South Shores Project was halted in the fall of 1988 because workers complained about hydrogen sulfide emissions during regrading activities on site. During the past five years, additional fine-grained soil has been placed on the landfill as cover material. An engineering geologist characterizes the material before it is deposited on the landfill. Illegal dumping of municipal waste has reportedly occurred intermittently at the landfill over the last several years. (10)

Currently, Phase II of the Mission Bay South Shores Development Project is underway. Phase II of the project involves regrading the landfill cover, constructing a boat launching basin, and developing a sand beach. Currently, 25 workers are employed for these developments at the site. As part of Phase II developments, dredging of the boat launching basin is underway to the north of the landfill limits. Two excavated areas are located to the east of the proposed boat launching basin. Dredged materials from the boat launching basin are pumped into the eastern excavated area. Water that is pumped along with the dredged materials into the eastern excavated area is drained into the western excavated area. Pools of yellowish-brown water have covered the bottom of the western excavated area. Available information indicates that this is leachate emanating from the landfill. Excavated materials from the eastern and western excavated areas are being used as additional landfill cover. Regrading of the landfill is being conducted to alleviate ponding of water and to provide a sheet flow for the surface water runoff. The surface water runoff flow direction in the southern portion of the landfill is from northeast to southwest. (10)

During operations between 1952 and 1959, the landfill received approximately 25,000 cubic yards per month of domestic and municipal refuse. (10) The Mission Bay Landfill apparently accepted some industrial wastes during that period. Available information indicates that up to 13,400 barrels potentially containing up to 737,000 gallons of industrial wastes consisting of waste acids, alkaline solutions, organic solvents, and paint wastes may have been disposed of during the seven years of operation of the landfill (5). A trench method of disposal was used at the site, whereby trenches approximately 60 feet long and 15 feet deep were excavated and filled with wastes. The trenches were often 5 feet to 10 feet below the water table. After placement of waste material into the trenches, a cover of 3 feet to 4 feet of soil was placed over the disposal area. (10)

In August 1983, the City of San Diego contracted with Woodward-Clyde Consultants to conduct a site assessment of Mission Bay Landfill. As part of this study, field investigations at the site included a geophysical survey, soil and groundwater sampling, and air quality measurements. The California Regional Water Quality Control Board (RWQCB), San Diego Region, issued closure requirements for the Mission Bay Landfill in 1985. The requirements include specifications for an ongoing water quality monitoring and reporting program. The City of San Diego Waste

Management Department is currently complying with these requirements by testing the surface water of Mission Bay and the San Diego River semi-annually, and by testing the sediments of Mission Bay and the San Diego River and the groundwater beneath the site annually. Semi-annual and annual sampling results have been submitted by the City of San Diego to the RWQCB since 1985. (10) In November 1988, the City of San Diego contracted with Kary Environmental Services to collect seep samples from the boat launching basin (6). Surface water and sediment sampling was conducted within the proposed boat launching basin by Woodward-Clyde Consultants for the City of San Diego in September 1989 (8). The County of San Diego, Environmental Health Department conducts site inspections every 3 months and monitors gaseous emissions, leachate generation, and differential settlement (11).

2.4 Regulatory Involvement

2.4.1 U.S. Environmental Protection Agency. Mission Bay Landfill is not listed in the Resource Conservation and Recovery Information System (RCRIS) database, as of June 8, 1993 (12).

2.4.2 California Environmental Protection Agency.

Regional Water Quality Control Board (RWQCB), San Diego Region. The RWQCB issued waste discharge requirements for site closure of the Mission Bay Landfill in 1985. These requirements included specifications for an ongoing semi-annual and annual surface water, sediments, and groundwater monitoring and reporting program. The City of San Diego Waste Management, Refuse Disposal Division is conducting the sampling protocol according to the EPA test procedures approved under the Code of Federal Regulations, Part 16, Guidelines Establishing Test Procedures for Analysis of Pollutants. Sampling has been accomplished by personnel from the City of San Diego, Water Utilities Department and the Refuse Disposal Division. Laboratory analysis of the samples collected has been conducted by the City of San Diego, Water Utilities Department, Point Loma Treatment Plant Laboratory. The RWQCB has also issued dredging requirements for construction of the boat launching basin. The incomplete basin is separated from Mission Bay by a temporary berm. (5)

Department of Toxic Substances Control (DTSC). The DTSC conducted a preliminary assessment of the site in February 1987, and concluded that the landfill is not likely to become a source of contamination (13).

2.4.3 County of San Diego, Environmental Health Department. Available records show that the Environmental Health Department has conducted site inspections since July 1988 (14). The Environmental Health Department conducts site inspections approximately every 3 months and monitors gaseous emissions using a combustible gas indicator, leachate generation, and differential settlement (11). The most recent inspection was conducted in March 1993. During the inspections, improper grading of the landfill, which resulted in ponding of water and differential settlement were cited as the most common problems associated with the landfill. No violations of gaseous emission standards have been noted in any of the inspection records to date. (14)

2.4.4 San Diego County, Air Pollution Control District (APCD). The APCD has not conducted any monitoring at the Mission Bay Landfill since 1988. Available information does not indicate the frequency at which site inspections were conducted prior to 1988. After a site inspection in

1988, the APCD concluded that the site did not pose any hazards to humans or to the environment and did not require future monitoring. (15)

3.0 INVESTIGATIVE EFFORTS

3.1 Previous Sampling and Analyses

3.1.1 Gas Sampling. In August 1983, the City of San Diego contracted with Woodward-Clyde Consultants to conduct a site assessment of the Mission Bay Landfill. As part of this study, samples of landfill gases were collected from within the landfill limits and analyzed. The Tenax trap sampling method was used for collection of landfill gases. The sample collection device included Tenax-gas chromatography/silica gel adsorbent resin in stainless steel columns for collection of gas samples. The field sampling module enabled collection and concentration of gases onto adsorbent resin traps. The collected gases were analyzed using a gas chromatograph. As part of this study, samples collected from gas wells were analyzed for hydrogen sulfide and hydrogen cyanide; these gases were not detected above laboratory detection limits. (16) The County of San Diego, Environmental Health Department conducts site inspections approximately every 3 months and monitors gaseous emissions using a combustible gas indicator (11). To date, no violations of gaseous emission standards have been noted in any of the inspection records (14).

3.1.2 Surface Water Sampling. In accordance with the waste discharge requirements for site closure of the Mission Bay Landfill issued by the RWQCB in 1985, the surface water monitoring program has consisted of semi-annual and annual sampling events. Sampling is conducted at low tide periods at the Mission Bay and San Diego River sampling locations. According to the requirements of the monitoring program, surface water is monitored on a semi-annual and annual basis for dissolved metals by EPA Method 6010, halogenated volatile organic compounds by EPA Method 601, and aromatic volatile compounds by EPA Method 602. Three sampling locations are monitored within Mission Bay, five sampling locations within the San Diego River, and one sampling location within the proposed boat launching basin. The concentrations of all constituents in surface water samples appear to be fairly consistent. During the period of monitoring between 1985 and 1991, laboratory analyses of surface water samples collected from the three Mission Bay sampling locations reveal maximum concentrations of chromium at 60 microgram per liter (µg/l), copper at 90 µg/l, and total halogenated volatile organic compounds at 31.3 µg/l. Laboratory analyses of water samples collected from within the proposed boat launching basin reveal maximum concentrations of chromium at 60 µg/l, copper at 87 µg/l, and total halogenated volatile organic compounds at 7.9 µg/l. Laboratory analyses of surface water samples collected from the five San Diego River sampling locations reveal maximum concentrations of chromium at 60 µg/l, copper at 106 µg/l, and total halogenated volatile organic compounds at 77.2 µg/l. None of the sampling locations within Mission Bay or the San Diego River were considered background locations. (13)

Woodward-Clyde Consultants collected six water samples from the proposed boat launching basin for the City of San Diego in September 1989. The samples were analyzed for dissolved metals by EPA Method 6010, organochlorine pesticides by EPA Method 608, volatile organic compounds by EPA Method 624, and semivolatile organic compounds by EPA Method 625. Laboratory analyses of the water samples revealed maximum concentrations of chromium at 1.1 mg/l, copper at 2.0 mg/l, and silver at 2.1 mg/l. None of the analytes listed above were detected in background

samples collected from Mission Bay. Other constituents were not detected above laboratory detection limits. (8)

3.1.3 Sediment Sampling. In accordance with the waste discharge requirements for site closure issued by the RWQCB in 1985, the City of San Diego conducted sediment monitoring at the same locations as surface water monitoring. According to the requirements of the monitoring program, sediment samples are monitored on an annual basis for dissolved metals by EPA Method 6010. During the period of monitoring between 1985 and 1991, laboratory analyses of the sediment samples collected from the three Mission Bay sampling locations reveal maximum concentrations of chromium at 69 milligrams per kilogram (mg/kg) and copper at 150 mg/kg. During the same period, laboratory analyses of sediment samples collected from within the proposed boat launching basin reveal maximum concentrations of chromium at 47 mg/kg and copper at 39 mg/kg. During the monitoring period between 1985 and 1991, laboratory analyses of sediment samples collected from the five San Diego River sampling locations reveal maximum concentrations of chromium at 120 mg/kg and copper at 51 mg/kg. None of the sampling locations within Mission Bay or the San Diego River were considered background locations. (13)

Woodward-Clyde Consultants collected sediment samples from the proposed boat launching basin for the City of San Diego in September 1989. Five sediment samples were collected and analyzed for dissolved metals by EPA Method 6010, organochlorine pesticides by EPA Method 608, volatile organic compounds by EPA Method 624, and semivolatile organic compounds by EPA Method 625. Laboratory analyses of the sediment samples reveal maximum concentrations of chromium at 19.8 mg/kg, lead at 3.86 mg/kg, nickel at 16.2 mg/kg, and zinc at 30.6 mg/kg. Other constituents were not detected above laboratory detection limits. (8)

3.1.4 Seep Sampling. In November 1988, Kary Engineering Services, contracted by the City of San Diego, collected a seepage sample from the vicinity of the proposed boat launching basin area. Laboratory analyses of the sample by EPA Methods 624 and 625 reveal concentrations of 1,1-dichloroethylene at 4,700 ppb, 1,1-dichloroethane at 550 ppb, chloroform at 40 ppb, 1,2-dichloroethane at 75 ppb, 1,1,1-trichloroethane at 9,800 ppb, and carbon tetrachloride at 450 ppb. (6,8)

3.2 EPA Sampling

No EPA-sponsored sampling has been conducted at, or is proposed for, the site because existing information is sufficient to evaluate the site at this time.

4.0 HAZARD RANKING SYSTEM FACTORS

4.1 Sources of Contamination

The City of San Diego operated an unregulated landfill on the southeast shore of Mission Bay between 1952 and 1959. The Mission Bay Landfill apparently accepted some industrial wastes during that period. Available information indicates that up to 13,400 barrels containing approximately 737,000 gallons of industrial wastes consisting of waste acids, carbon tetrachloride, methylethyl ketone, cadmium wastes, toluene, and zinc chromate were probably disposed of in the landfill during the seven years of operation. (5)

4.2 Groundwater Pathway

Groundwater within 4 miles of the site is brackish and not used for drinking purposes. The San Diego County Water Authority supplies 80 to 90 percent of the water to San Diego County. The San Diego County Water Authority imports water purchased from the Metropolitan Water District of Southern California, which is a blend of water from Northern California and the Colorado River. (17) No drinking water wells are within 4 miles of the site (18). The depth to groundwater at the site is approximately 20 feet to 25 feet below ground surface. The groundwater gradient is relatively flat across the site except at the western end of the landfill where two monitoring wells indicate water levels 2 feet to 3 feet higher than those beneath the rest of the site (19).

4.3 Surface Water Pathway

The site is within 100 feet of Mission Bay and the San Diego River. There are no drinking water intakes within 15 miles downstream of the site (20). The following seven endangered species have habitats within 15 miles of the site: the California brown pelican, a federally and state-listed endangered species; the California least tern, a federally and state-listed endangered species; the salt marsh bird's beak, a federally and state-listed endangered species; the light footed clapper rail, a federally and state-listed endangered species; the California black rail, a federally listed endangered and state-listed threatened species; the beldings savannah sparrow, a state-listed endangered species; and the peregrine falcon, a federally listed endangered and state-listed threatened species (21). The site is in an area of minimal flooding (22). The 2-year, 24-hour rainfall event for San Diego is between 1.6 and 1.8 inches (23).

4.4 SOIL EXPOSURE AND AIR PATHWAY

4.4.1 Physical Conditions. The 115-acre site consists of a landfill and an unpaved area to the north. The site currently supports a sparse growth of scrub brush and reed grasses. The area to the north of the landfill consists of a proposed boat launching basin area and two excavated areas. These three areas are separated from Mission Bay by a berm approximately 10 feet wide at the crest. The site is not fenced on any side and is accessible to the public from all sides. (10)

4.4.2 Soil and Air Targets. The Sea World Aquatic Park, a recreational center, borders Mission Bay Landfill to the west. Currently, 25 workers are employed on site; however, no residences, schools, or daycare centers are on or within 200 feet of the site. (10) There are approximately 212,000 people within 4 miles of the site (24).

4.4.3 Soil Exposure and Air Pathway Conclusions. Halogenated volatile organics analysis of a seepage sample collected from the proposed boat launching basin on site reveal concentrations of 1,1-dichloroethylene at 4,700 ppb, 1,1-dichloroethane at 550 ppb, chloroform at 40 ppb, 1,2-dichloroethane at 75 ppb, 1,1,1-trichloroethane at 9,800 ppb, and carbon tetrachloride at 450 ppb. Water samples collected from pools of water in the proposed boat launching basin in the northwestern portion of the site contained chromium, copper, and silver at levels up to 1.1 mg/l, 2.0 mg/l, and 2.1 mg/l, respectively. (8) During regrading activities conducted on site in 1988, hydrogen sulfide emissions caused nausea and discomfort to the workers on site (6, 7). The County of San Diego, Environmental Health Department conducts site inspections approximately every 3 months and monitors gaseous emissions using a combustible gas indicator (11). The site

is accessible from all sides; however, no residences, schools, or daycare centers are on or within 200 feet of the site. (10)

5.0 EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40 CFR 300.415 (b) (2)] authorizes the EPA to consider emergency response actions at those sites which pose an imminent threat to human health or the environment. For the following reasons a referral to Region IX's Emergency Response Section does not appear to be necessary:

- The landfill has been closed since 1959.
- No residences, schools, or daycare centers are on or within 200 feet of the site.
- There is an ongoing semi-annual and annual surface water, sediment, and groundwater monitoring and reporting program for the Mission Bay and San Diego River area conducted by the City of San Diego.

6.0 SUMMARY

Mission Bay Landfill is located between Mission Bay and the San Diego River, in San Diego, San Diego County, Calif. The 115-acre landfill site consists of a landfill and an unpaved area to the north. The site is bordered on the north by Mission Bay, on the east by Interstate 5, on the south by the San Diego River, and on the west by Sea World Aquatic Park. The area to the north of the landfill consists of a proposed boat launching basin area and two excavated areas. These three areas are separated from Mission Bay by a berm approximately 10 feet wide at the crest. The site is not fenced on any side and is accessible to the public.

The City of San Diego purchased the property from the California State Division of Parks in the mid-1940s and has owned the site since. The City of San Diego operated part of the site as a landfill between 1952 and 1959. The landfill was used as a disposal site for hydraulic fill generated from the dredging of Mission Bay between 1959 and 1962. Sea World Drive and Friars Road were constructed at the southern and eastern portions of the landfill sometime between 1962 and 1980. Imported fill soil and additional hydraulic fill were placed on the landfill in 1980. In 1985, Phase I of the Mission Bay South Shores Development Project was initiated by the City of San Diego Parks and Recreation Department. Phase I of the project involved the construction of a 9-acre inlet basin, a 10-lane boat launching ramp, two boarding docks, a parking lot, landscaping, and a sand dune habitat area. The project was halted in the fall of 1988 because workers complained about hydrogen sulfide emissions during regrading activities on site. During the past five years, additional fine-grained soil has been placed on the landfill as cover material. Currently, Phase II of the Mission Bay South Shores Development Project is underway. Phase II of the project involves regrading the landfill cover, constructing a boat launching basin, and developing a sand beach. Twenty-five workers are employed for these developments at the landfill site.

During the period of its operation, the landfill received approximately 25,000 cubic yards per month of domestic and municipal refuse. The Mission Bay Landfill apparently accepted some industrial wastes during that period. Available information indicates that up to 13,400 barrels potentially containing up to 737,000 gallons of industrial wastes consisting of waste acids, alkaline

solutions, organic solvents, and paint wastes may have been disposed of in the landfill between 1952 and 1959.

The California Regional Water Quality Control Board (RWQCB), San Diego Region has been actively involved with regulatory actions at the site. The RWQCB issued waste discharge requirements for site closure for the Mission Bay Landfill in 1985. The requirements include specifications for an ongoing water quality monitoring and reporting program. The City of San Diego is currently complying with these requirements by semi-annually testing the surface water of Mission Bay and the San Diego River, and by testing the sediments of Mission Bay and the San Diego River and the groundwater beneath the site annually. The County of San Diego, Environmental Health Department monitors the site for gaseous emissions, leachate generation, and differential settlement. No violations have been recorded in their inspection records. After a site inspection in 1988, the San Diego County Air Pollution Control District concluded that the site did not pose any hazards to humans or to the environment and did not require future monitoring.

During the period of surface water and sediment monitoring between 1985 and 1991, concentrations of all constituents in surface water and sediment samples appeared to be fairly consistent. Laboratory analyses of surface water samples collected from three Mission Bay sampling locations revealed maximum concentrations of chromium at 60 micrograms per liter (µg/l), copper at 90 µg/l, and total halogenated volatile organic compounds at 31.3 µg/l. Laboratory analyses of surface water samples collected from five San Diego River sampling locations revealed maximum concentrations of chromium at 60 µg/l, copper at 106 µg/l, and total halogenated volatile organic compounds at 77.2 µg/l. Laboratory analyses of sediment samples collected from three Mission Bay sampling locations revealed maximum concentrations of chromium at 69 milligrams per kilogram (mg/kg) and copper at 150 mg/kg. Laboratory analyses of sediment samples collected from five San Diego River sampling locations revealed maximum concentrations of chromium at 120 mg/kg and copper at 51 mg/kg. None of the sampling locations within Mission Bay or the San Diego River was considered as a background location.

Groundwater within 4 miles of the site is brackish and not used for drinking purposes. Depth to groundwater on site is approximately 20 feet to 25 feet below ground surface. No drinking water wells are within 4 miles of the site.

The Mission Bay and the San Diego River are within 100 feet of the site. The Mission Bay and the San Diego River waters are used for recreational fishing. There are no drinking water intakes within 15 miles downstream of the site. Seven endangered species inhabit areas within 15 miles of the site.

The entire site is unpaved and accessible to the public. Currently, 25 people are employed on site, and no residences, daycare centers, or schools are on or within 200 feet of the site. The site is monitored for gaseous emissions approximately every three months and no violations have been recorded.

The following pertinent Hazard Ranking System Factors are associated with the site:

- No drinking water wells are within 4 miles of the site. Groundwater beneath the site is brackish and not used for drinking purposes.
- There are no surface water intakes that supply drinking water within 15 miles downstream of the site.

- The site is monitored for gaseous emissions approximately every three months. No violations have been recorded.
- No residences, schools, or daycare centers are on or within 200 feet of the site.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Site Name: Mission Bay Landfill **EPA ID#:** CAD 980881353

Alias Site Names:

City: SAN DIEGO **County or Parish:** SAN DIEGO **State:** CA

Refer to Report Dated: 8/2/93 **Report type:** Site Inspection Prioritization

Report developed by: Bechtel Environmental, Inc.

DECISION:

|X| 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

|X| 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

| | 2. Further Assessment Needed Under CERCLA:

2a. (optional) Priority: | | Higher | | Lower

2b. Activity Type: | | PA | | SI | | ESI | | HRS evaluation | | Other:

DISCUSSION/RATIONALE:

Report Reviewed, Approved, and Site Decision Made by: Michael E. Ebbert **Signature:** Michael E. Ebbert **Date:** 8/7/93

EPA Form # 9100-3 Rev. 5/93

APPENDIX A

REFERENCE LIST

Site: Mission Bay Landfill

1. U.S Environmental Protection Agency, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), May 3, 1993.

2. County of San Diego, Department of Health Services, Preliminary Assessment of the Mission Bay Landfill, February 1987.

3. Dragolovich, Kate, Ecology and Environment, Inc., Screening Site Inspection Reassessment of the Mission Bay Landfill, November 9, 1989.

4. Laura Kadlecik, Ecology and Environment, Inc., NPL Prioritization Criteria Memorandum for the Mission Bay Landfill, September 25, 1991.

5. City of San Diego, Waste Management Department, Solid Waste Assessment Report of the Mission Bay Landfill, June 30, 1988, pp 4-9.

6. City of San Diego, Memorandum to Deputy Director, Metro Division, Water Utilities, from Senior Chemist, Metro Division, Water Utilities, August 14, 1989.

7. Kary, Raymond, Kary Environmental Services, Report to T.B. Penick & Sons, Inc., Mission Bay South Shores Project, Environmental Analysis, November 1988, pp 1-2.

8. Woodward Clyde Consultants, Report to Darren Greenhalgh, City of San Diego, Parks and Recreation Department, on surface water and sediment sampling at the Mission Bay Landfill November 2, 1989.

9. U.S. Geological Survey, La Jolla Corner Quadrangle, California - San Diego Co., 7.5-minute series (topographic), Photorevised 1975.

10. Mahadevan, Subbu, Bechtel Environmental, Inc., Site Reconnaissance Interview and Observations Report, May 25, 1993.

11. Lafreniere, Rebecca, San Diego County, Environmental Health Department, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., May 17, 1993.

12. U.S. Environmental Protection Agency, Resource Conservation and Recovery Information System (RCRIS), Region IX Database, June 8, 1993.

13. ERCE, Evaluation of Surface Water and Sediment Monitoring Program for the Mission Bay Landfill, July 30, 1991, pp 2-3 and 2-5, Appendix A.

REFERENCE LIST (Cont'd)

Site: Mission Bay Landfill

14. Lafreniere, Rebecca, San Diego County, Environmental Health Department, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., June 25, 1993.

15. Byrnes, David, San Diego County, Air Pollution Control District, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., May 24, 1993.

16. Woodward-Clyde Consultants, Site Assessment Report Appendices on the Mission Bay Landfill, Appendix H, November 17, 1983, pp 96, 99-100.

17. Purcell, Larry, San Diego County, Water Authority, Telephone conversation recorded on Contact Report by Sharon Reackhof, Bechtel Environmental Inc., September 28, 1992.

18. Hoirup, Don, Regional Water Quality Control Board, San Diego Region, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., July 21, 1993.

19. Emcon Southwest, Water Quality Monitoring Plan and Financial Assurance Cost Estimate for the Mission Bay Landfill, June 1992, pp 5-6.

20. Kidman, Kurt, City of San Diego, Water Utilities Department, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., June 15, 1993.

21. Dillingham, Tim, California Department of Fish and Game, Telephone conversation recorded on Contact Report by Sharron Reackhof, Bechtel Environmental Inc., April 13, 1993.

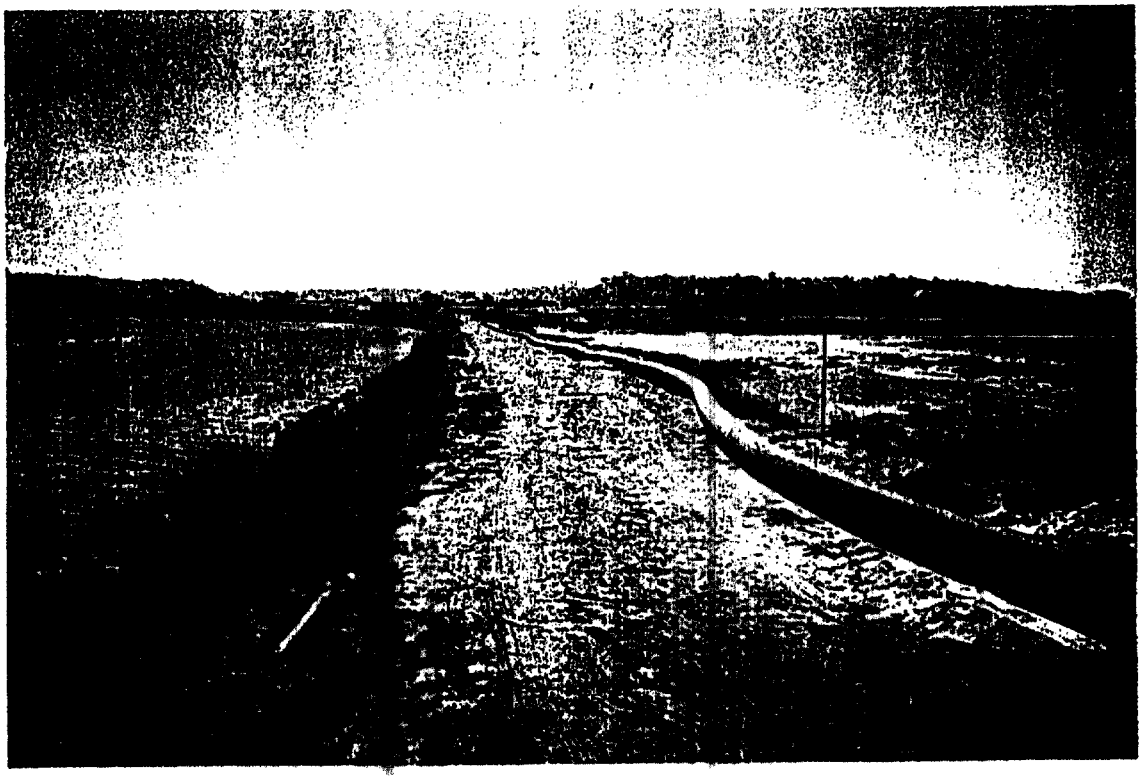
22. Bollenbach, Gerri, City of San Diego, Engineering and Development Department, Telephone conversation recorded on Contact Report by Subbu Mahadevan, Bechtel Environmental Inc., May 21, 1993.

23. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Atlas 2, Volume XI, Isopluvials of 2-year, 24-hour Precipitation for Southern Half of California in Tenths of an Inch.

24. U.S. Environmental Protection Agency, Office of Toxic Substances, Graphical Exposure Modeling Systems (G.E.M.S.) Database, General Sciences Corporation, 1983 Population Estimates, March 1989.

APPENDIX B
Photographic Documentation

1. Dredging operations at the proposed boat launching basin (facing northwest).



2. Berm at the north end of the site separates the landfill from Mission Bay (facing west).

3. Unexcavated area separates the western and eastern excavated areas (facing northwest).

4. Yellowish-brown coloration in soils at the bottom of the western excavated area.

5. The eastern excavated area contains ponded water that was pumped from the proposed boat launching-basin dredging operations (facing north).

6. Regrading of landfill cover (facing west).

APPENDIX C

CONTACT LOG

Site: Mission Bay Landfill

EPA ID: 980881353

Name	Affiliation	Phone	Date	Information
Larry Purcell	San Diego County, Water Authority	(619) 297-3218 ext. 236	9/28/92	See Contact Report by Sharron L. Reackhof, Bechtel Environmental, Inc. (BEI).
Kurt Kidman	City of San Diego, Water Utilities Department	(619) 533-4185	9/30/92	See Contact Report by Sharron L. Reackhof, BEI.
Bob Reed	California Department of Fish and Game	(619) 525-4215	4/13/93	See Contact Report by Sharron L. Reackhof, BEI.
Tim Dillingham	California Department of Fish and Game	(619) 525-4215	4/13/93	See Contact Report by Sharron L. Reackhof, BEI.
George Morton	City of San Diego, Waste Management Department	(619) 492-5035	5/11/93	See Contact Report.
Mark Alpert	California Regional Water Quality Control Board, San Diego Region	(619) 467-2963	5/11/93	He stated that Don Hoirup would be aware of files on the Mission Bay Landfill.
Tom Pittman	San Diego County Environmental Health Services	(619) 338-2235	5/11/93	He stated that George Morton of the City of San Diego, Waste Management Department would have the most recent information on the landfill.
JoAnn Eres	California Department of Fish and Game	(310) 590-5148	5/11/93	She requested a letter to obtain information on fish catch.
George Morton	City of San Diego, Waste Management Department	(619) 492-5035	5/17/93	See Contact Report.

CONTACT LOG (Cont'd)

Site: Mission Bay Landfill

Name	Affiliation	Phone	Date	Information
Rebecca Lafreniere	San Diego County Environmental Health Services	(619) 338-2234	5/17/93	See Contact Report.
Rick Amador	City of San Diego, Water Utilities Department	(619) 668-3241	5/17/93	See Contact Report.
Don Hoirup	Regional Water Quality Control Board, San Diego Region	(619) 627-3926	5/18/93	See Contact Report.
Gloria Fulton	Regional Water Quality Control Board, San Diego Region	(619) 467-2959	5/19/93	See Contact Report.
Gerri Bollenbach	City of San Diego, Engineering and Development	(619) 533-3795	5/21/93	See Contact Report.
Dave Byrnes	San Diego County Air Pollution Control District	(619) 694-3307	5/24/93	See Contact Report.
George Morton	City of San Diego, Waste Management Department	(619) 492-5035	6/14/93	See Contact Report.
Kurt Kidman	City of San Diego, Water Utilities Department	(619) 533-4185	6/15/93	See Contact Report.
Rebecca Lafreniere	San Diego County Environmental Health Services	(619) 338-2234	6/25/93	See Contact Report.
Brian Kelley	Regional Water Quality Control Board, San Diego Region	(619) 467-2969	6/29/93	He will fax information about the RWQCB's involvement with the dredging operations at the landfill site.

CONTACT LOG (Cont'd)

Site: Mission Bay Landfill

Name	Affiliation	Phone	Date	Information
Don Hoirup	Regional Water Quality Control Board, San Diego Region	(619) 627-3926	7/21/93	See Contact Report.

APPENDIX D

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CONTACT REPORT

AGENCY/AFFILIATION: San Diego County Water Authority		
DEPARTMENT: Water Resource Planning Division		
ADDRESS: 3211 Fifth Avenue	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92103

CONTACT(S)	TITLE	PHONE
Larry Purcell	Manager, Water Resource Planning	(619) 297-3218 ext. 236

BEI PERSON MAKING CONTACT: Sharron L. Reackhoff SR	DATE: 9/28/92
SUBJECT: San Diego County Water Distribution Information	
SITE NAME:	EPA ID: CAD

DISCUSSION: Mr. Purcell informed me that the San Diego County Water Authority supplies 80-90 percent of the water to San Diego County. The San Diego County Water Authority purchases raw water from the Metropolitan Water District of Southern California. Water distributed by the Metropolitan Water District of Southern California is a blend of water from Northern California and the Colorado River. Mr. Purcell told me that he will send me the San Diego Water Authorities Fourty-fifth Annual Report, 1990-1991. He said that the book will detail water distribution by the San Diego County Water Authority.

CONTACT CONCURRRENCE: Larry Purcell DATE: 10-5-92

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CONTACT REPORT 004 00095

AGENCY/AFFILIATION: City of San Diego Water Utilities		
DEPARTMENT:		
ADDRESS: 401 B Street 600 B Street	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92101-4227
CONTACT(S)	TITLE	PHONE
Kurt Kidman	Public Information Officer	(619) 533-4185
BEI PERSON MAKING CONTACT: Sharron L. Reackhof		DATE: 9/30/92
SUBJECT: Municipal Drinking Water Supply		
SITE NAME:	EPA ID:	

DISCUSSION: Mr. Kidman informed me that the City of San Diego purchases 100 percent* of its drinking water supply from the San Diego Water Authority. Upon receiving the raw water from the San Diego Water Authority, the City of San Diego pipes it to nine aboveground reservoirs for storage. The stored water is sent through one of three treatment plants prior to distribution. According to Mr. Kidman, the City of San Diego supplies water to approximately 1.2 million people. In addition, some of the reservoirs are used for recreational fishing.

*EXCEPT FOR LOCAL RUNOFF, WHICH IS ABOUT 10%. THEREFORE 90% OF OUR WATER COMES FROM CWA.

CONTACT CONCURRRENCE: [signature] DATE: 10-21-92

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CONTACT REPORT

AGENCY/AFFILIATION: California Department of Fish and Game		
DEPARTMENT:		
ADDRESS: 1350 Front Street, Room 2041	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92101
CONTACT(S)	TITLE	PHONE
Tim Dillingham	Wildlife Biologist	(619) 525-4215
BEI PERSON MAKING CONTACT: Sharron L. Reackhof SLR		DATE: 4/13/93
SUBJECT: Endangered and threatened species in the Mission Bay and San Diego Bay		
SITE NAME: Not Applicable	EPA ID: Not Applicable	

DISCUSSION: Mr. Dillingham and I discussed the threatened and endangered species which may be present in the Mission Bay area as well as the San Diego Bay area. He told me that the various species present in the Mission Bay are similar to those in the San Diego Bay; however, there may be a few additional species associated with the San Diego Bay. Following is the list of threatened and endangered species associated with both bays:

- The California brown pelican (*Pelecanus occidentalis*), a federal and state endangered species.
- The California least tern (*Sterna antillarum browni*), a federal and state endangered species.
- The salt marsh bird's-beak (*Cordylanthus maritimus ssp maritimus*), a federal and state endangered species.
- The light footed clapper rail (*Rallus longirostris levipes*), a federal and state endangered species.
- The California black rail (*Laterallus jamaicensis coturniculus*), a state threatened and federally endangered species.

CONTACT REPORT (Cont'd)

AGENCY/AFFILIATION: California Department of Fish and Game		
CONTACT(S)	TITLE	PHONE
Tim Dillingham	Wildlife Biologist	(619) 525-4215
SITE NAME: Not Applicable		EPA ID: Not Applicable

DISCUSSION: Cont'd

- The beldings savannah sparrow (*Passerculus sandwichensis beldingi*), a state endangered species. ✓

- The peregrine falcon (*falco peregrinus anatum*), a state threatened and federally endangered species.

CONTACT CONCURRENCE: Tim Dillingham DATE: 4/19/93

CONTACT REPORT

AGENCY/AFFILIATION: California Department of Fish and Game		
DEPARTMENT: MARINE RESOURCES DIVISION		
ADDRESS: 1350 Front Street, Room 2041	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92101

CONTACT(S)	TITLE	PHONE
Bob Reed	Marine Biologist	(619) 525-4215

BEI PERSON MAKING CONTACT: Sharron L. Reackhoff SLR	DATE: 4/13/93
SUBJECT: Fish catch data for the San Diego area	
SITE NAME: Not Applicable	EPA ID: Not Applicable

DISCUSSION: Mr. Reed told me that fish catch data is no longer supplied according to the fish catch blocks. He said that the number of pounds of fish caught in the San Diego area is reported by the fishermen. According to Mr. Reed, the estimated total pounds of fish caught in the San Diego area last year was 0.50-0.75 million. Mr. Reed told me that there are no threatened or endangered species of fish in Mission Bay or San Diego Bay.

CONTACT CONCURRENCE: Robert B Reed DATE: 4-19-93

Annual total pounds probably average around (mill
for all fishes in last decade... my initial
guess is too pessimistic.

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego		
DEPARTMENT: Waste Management Department, Refuse Disposal Division		
ADDRESS: 4950 Murphy Canyon Road	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92123
CONTACT(S)	TITLE	PHONE
George Morton	Civil Engineer	(619) 492-5035
BEI PERSON MAKING CONTACT: Subbu Mahadevan SM		DATE: 5/11/93
SUBJECT: Updated information on the Mission Bay Landfill		
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353	

DISCUSSION: Mr. Morton stated that the City of San Diego has published several reports and memorandums on the Mission Bay Landfill in the last 3 years. He stated that annual and semi-annual monitoring of groundwater and surface water around the site have been conducted. Currently, the landfill is being regraded. He stated that five groundwater wells will be installed at the site. He stated that it would be convenient for him and the field personnel if a site visit was scheduled after the regrading of the landfill.

CONTACT CONCURRENCE: George R. Morton Jr. DATE: 5-18-93

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego		
DEPARTMENT: Waste Management, Refuse Disposal Division		
ADDRESS: 4950 Murphy Canyon Road, Suite 101	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92123

CONTACT(S)	TITLE	PHONE
George Morton	Civil Engineer	(619) 492-5035

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 5/17/93
SUBJECT: Updated information on the Mission Bay Landfill	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: Mr. Morton stated that the Mission Bay South Shores Project was initiated by the City of San Diego, Park and Recreation Department in 1986. The intention of the project was the development of a recreational park. The project was halted in the fall of 1988 due to a release of hydrogen sulphide to the atmosphere.

CONTACT REPORT

AGENCY/AFFILIATION: *San Diego County*		
DEPARTMENT: Environmental Health Services, Solid Waste Division		
ADDRESS: P.O.Box 85261	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92186-5261

CONTACT(S)	TITLE	PHONE
Rebecca Lafreniere	Hazardous Materials Specialist II	(619) 338-2234

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 5/17/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: The San Diego County Environmental Health Services (EHS) is one of the regulatory agencies that oversees the developments at the Mission Bay Landfill. The EHS conducts site inspections every 3 months, provided they have the staffing. The EHS monitors for gaseous emissions using a Combustible Gas Indicator. The EHS also monitors the landfill for leachate generation and differential settlement, but does not conduct any water sampling. The EHS is involved in Phase II developments at the landfill site. Phase II developments at the site involve the construction of a boat launching basin and regrading of the landfill.

CONTACT CONCURRENCE: _____ DATE: _____

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego			
DEPARTMENT: Water Utilities Department			
ADDRESS: 5530 Kiowa		CITY: La Mesa	
COUNTY: San Diego		STATE: CA	ZIP: 91942
CONTACT(S)	TITLE		PHONE
Rick Amador	Associate Biologist		(619) 668-3241
BEI PERSON MAKING CONTACT: Subbu Mahadevan S.M.			DATE: 5/17/93
SUBJECT: Surface water distribution around the Mission Bay Landfill			
SITE NAME: Mission Bay Landfill		EPA ID: CAD 980881353	

DISCUSSION: Mr. Amador stated that 100 percent of the drinking water supplied to the people residing around the Mission Bay Landfill is from surface water. The water comes from the Colorado River and 7 lakes.

CONTACT REPORT

AGENCY/AFFILIATION: California Environmental Protection Agency		
DEPARTMENT: Regional Water Quality Control Board, San Diego Region		
ADDRESS: 9771 Claremont Mesa Boulevard, Suite B	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92124

CONTACT(S)	TITLE	PHONE
Don Hoirup	Engineering Geologist	(619) 467-2968

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 5/18/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: The RWQCB is one of the regulatory agencies involved with the site. Mr. Hoirup stated that EMCON Associates has written a comprehensive report on the groundwater and surface water monitoring program conducted at the site. Mr. Hoirup will attend the site visit scheduled for May 25, 1993, at the Mission Bay Landfill.

CONTACT REPORT

AGENCY/AFFILIATION: California Environmental Protection Agency		
DEPARTMENT: Regional Water Quality Control Board, San Diego Region		
ADDRESS: 9771 Claremont Mesa Boulevard, Suite B	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92124

CONTACT(S)	TITLE	PHONE
Gloria Fulton	Sanitary Engineering Associate	(619) 467-2959

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM 5.5.	DATE: 5/19/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: Ms. Fulton is with the National Pollutant Discharge Emissions System group at the RWQCB. She and Peter Otis have been involved with the surface water monitoring at the site. Ms. Fulton requested a copy of the site visit letter and stated that she will attend the site visit with Don Hoirup.

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego		
DEPARTMENT: Engineering and Development-Design		
ADDRESS: 1010 2nd Ave, Suite 1100	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92101
CONTACT(S)	TITLE	PHONE
Gerri Bollenbach	Assistant Civil Engineer	(619) 533-3795
BEI PERSON MAKING CONTACT: Subbu Mahadevan SM		DATE: 5/21/93
SUBJECT: Information on floodplains		
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353	

DISCUSSION: Ms. Bollenbach stated that the Mission Bay Landfill is located in flood zone 'C', which is defined as an area of minimal flooding according to the Federal Emergency Management Agency.

CONTACT CONCURRENCE: _____ DATE: 5/25/93

CONTACT REPORT

AGENCY/AFFILIATION: County of San Diego		
DEPARTMENT: Air Pollution Control District (APCD)		
ADDRESS: 9150 Chesapeake Drive, Suite 102	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92123

CONTACT(S)	TITLE	PHONE
David Byrnes	AssociateEngineer	(619) 694-3307

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 5/24/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: Mr. Byrnes stated that the County of San Diego APCD has not conducted any monitoring at the Mission Bay Landfill since 1988. During their last evaluation in 1988, it was concluded that the site did not warrant future monitoring. A construction worker was taken ill due to gaseous emissions during an intrusive investigation at the landfill in 1988. He stated that the landfill posed no hazard to human and environment provided no intrusive methods of investigation were used at the landfill.

CONTACT CONCURRENCE: _____ DATE: _____

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego		
DEPARTMENT: Waste Management, Refuse Disposal Division		
ADDRESS: 4950 Murphy Canyon Road, Suite 101	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92123

CONTACT(S)	TITLE	PHONE
George Morton	Civil Engineer	(619) 492-5035

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 6/14/93
SUBJECT: Information on the western boundary of the site	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: Mr. Morton stated that a line of trees separates the Mission Bay landfill site from the Sea World parking lot on the western end. He stated that the landfill site is not fenced on this side. The landfill has been closed for several years, and since future plans for the site include a recreational park, the City of San Diego has not fenced any section of the site boundary. The distance to the nearest residence is approximately 0.75 mile.

CONTACT CONCURRENCE: George R. Morton Jr DATE: 6/21/93

The site closed Dec 7, 1959

CONTACT REPORT

AGENCY/AFFILIATION: City of San Diego		
DEPARTMENT: Water Utilities Department		
ADDRESS: 600 B Street	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92101
CONTACT(S)	TITLE	PHONE
Kurt Kidman	Public Information Officer	(619) 533-4185
BEI PERSON MAKING CONTACT: Subbu Mahadevan SM		DATE: 6/15/93
SUBJECT: Drinking water intakes		
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353	

DISCUSSION: Mr. Kidman informed me that no drinking water intakes are within 15 miles of the Mission Bay Landfill site.

CONTACT CONCURRENCE: KK DATE: 6-23-93

CONTACT REPORT

AGENCY/AFFILIATION: San Diego County		
DEPARTMENT: Environmental Health Department		
ADDRESS: P.O.Box 85261	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92186-5261
CONTACT(S)	TITLE	PHONE
Rebecca Lafreniere	Hazardous Materials Specialist II	(619) 338-2234
BEI PERSON MAKING CONTACT: Subbu Mahadevan SM		DATE: 6/25/93
SUBJECT: Agency Involvement		
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353	

DISCUSSION: The Environmental Health Department (EHD) was designated as one of the Local Enforcement Agencies for the Mission Bay Landfill in 1985. Records show that the EHD has conducted site inspections at the Mission Bay Landfill since at least July 1988. The most recent inspection was conducted in March 1993. During the EHD inspections, improper grading of the landfill, which resulted in ponding of water, and differential settlement of the landfill were cited as the most common problems associated with the site. No violations of gaseous emission standards have been noted in any of the EHD inspection records.

CONTACT CONCURRENCE: _____ DATE: _____

CONTACT REPORT

AGENCY/AFFILIATION: California Environmental Protection Agency		
DEPARTMENT: Regional Water Quality Control Board, San Diego Region		
ADDRESS: 9771 Claremont Mesa Boulevard, Suite B	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92124

CONTACT(S)	TITLE	PHONE
Don Hoirup	Engineering Geologist	(619) 627-3926

BEI PERSON MAKING CONTACT: Subbu Mahadevan GM J.T.	DATE: 7/21/93
SUBJECT: Drinking Water Wells	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: Mr. Hoirup stated that no drinking water wells are within a 4-mile radius of the Mission Bay Landfill site.

CONTACT CONCURRENCE: _____ DATE: _____

APPENDIX E

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Bechtel Environmental, Inc.
P.O. Box 193965
San Francisco, CA 94119-3965

OBSERVATIONS MADE BY: Subbu Mahadevan and Surjit Dhillon DATE: May 25, 1993

FACILITY REPRESENTATIVE(S) and TITLE(S): George Morton, City of San Diego
Sylvia Castillo, City of San Diego

SITE: Mission Bay Landfill

EPA ID: CAD 980881353

A site reconnaissance was conducted at the Mission Bay Landfill site on May 25, 1993. The weather was sunny and the temperature was approximately 70°F. The Bechtel Environmental, Inc. (BEI) site visit team, Subbu Mahadevan and Surjit Dhillon, conducted the site reconnaissance with George Morton and Sylvia Castillo, City of San Diego at 10 a.m. to gather information on the site location and size, site history, processes used, and any hazardous waste generated, treated, stored, or disposed of on site. The BEI team was provided with a packet of information prepared in response to BEI's letter dated May 11, 1993. The reconnaissance included a site tour during which photographs were taken.

The following information was obtained during the site reconnaissance:

The Mission Bay Landfill site occupies approximately 115 acres on the southeast shore of Mission Bay in San Diego, Calif. The site is bordered on the north by Mission Bay, on the south by San Diego River and Estuary, on the east by Interstate 5, and on the west by the Sea World Aquatic Park. The landfill is accessible from all sides.

The City of San Diego bought the property from the California State Division of Parks in the mid-1940s. The City of San Diego operated the site as a landfill between 1952 and 1959. During this period, the landfill received approximately 25,000 cubic yards per month of domestic and municipal refuse. The Mission Bay Landfill apparently accepted some industrial wastes. Available information indicates that waste acids, alkaline solutions, organic solvents, and paint wastes may have been placed in the landfill. The trench method of disposal was used at the site, whereby ditches approximately 60 feet long and 15 feet deep were filled with refuse. The ditches were often 5 feet to 10 feet below the water table. After placement of waste material into the trenches, a cover of 3 feet to 4 feet was placed over the disposal area. Following the cessation of landfill operation in 1959, the landfill was used as a disposal site for hydraulic fill generated from the dredging of Mission Bay until 1962. Approximately 5 feet to 20 feet of hydraulic fill consisting of saturated fine sandy silt was placed over the landfill and adjacent areas. Available information indicates that the construction of Sea World Drive and Friars Road occurred at the

southern end of the landfill sometime between 1962 and 1980. Imported fill soil and additional hydraulic fill were placed on the landfill in 1980. During the last five years, additional fine-graded soil has been placed on the landfill as a cover material. An engineering geologist characterizes the materials before it is deposited on the landfill. Illegal dumping of municipal waste has reportedly occurred intermittently at the landfill over the last several years. Phase I of the Mission Bay South Shores Development Project was initiated by the City of San Diego, Park and Recreation Department in 1985. The proposed project involved the construction of a 9-acre inlet basin, a 10-lane boat launching ramp, two boarding docks, a parking lot, landscaping, and a sand dune habitat area. The project was halted in the fall of 1988 because workers complained about hydrogen sulfide emissions during regrading activities on site.

Currently, Phase II of the Mission Bay South Shores Development Project is underway. Phase II of the project involves regrading the landfill cover, constructing a boat launching basin, and developing a sand beach. Currently, 25 workers are employed for the Phase II developments at the landfill site.

As part of Phase II developments, dredging of the boat launching basin is underway north of the landfill limits. Two excavated areas, separated by an unexcavated area, are located to the east of the proposed boat launching basin. Dredged materials from the boat launching basin are being pumped into the eastern excavated area. Water that is pumped along with the dredged materials into the eastern excavated area is being drained into the western excavated area. Pools of yellowish-brown water have inundated the bottom of the western excavated area. Available information indicates that this is leachate emanating from the landfill. Several samples of water and sediments have been taken from the excavated areas for laboratory analyses for a wide range of constituents. A berm approximately 10 feet wide at the crest separates the boat launching basin and the excavated areas from Mission Bay.

Excavated materials from the eastern and western excavated areas are being used as additional landfill cover. At the time of the site visit, regrading of the landfill was being conducted on site. This will alleviate ponding of water and provide a sheet flow for the surface water runoff. The surface water flow direction is from northeast to southwest in the southern part of the landfill.

The City of San Diego Refuse Disposal Division owns and operates the landfill. The California Regional Water Quality Control Board (RWQCB), San Diego Region issued closure requirements for the Mission Bay Landfill in 1985. The requirements include specifications for an ongoing monitoring and reporting program. The City of San Diego has complied with these requirements by testing the surface water of Mission Bay semi-annually and the groundwater beneath the site annually. Semi-annual and annual sampling results were submitted by the City of San Diego to the RWQCB since 1985. The most recent semi-annual report is due.

The San Diego County Environmental Health Department conducts site inspections every 3 months. The Environmental Health Department monitors the site for gaseous emissions using a Combustible Gas Indicator. The Environmental Health Department also monitors the landfill for leachate generation and differential settlement.

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT (Cont'd)

Site: Mission Bay Landfill

Mr. Morton provided the Bechtel site visit team with copies of reports pertaining to work done at the Mission Bay Landfill and Phase II Mission South Shores site development plans.

415 00008

Bechtel

50 Beale Street
San Francisco, CA 94105-1895
Mailing address: P.O. Box 193965
San Francisco, CA 94119-3965

June 28, 1993

Rebecca Lafreniere
San Diego County
Environmental Health Department
P.O.Box 85261
San Diego, CA 92186-5261

Dear Ms. Lafreniere:

As you know, Bechtel Environmental, Inc. (BEI) is assisting the EPA in assessing potential hazardous waste contamination at various abandoned sites and operating facilities. During our telephone conversation on June 25, 1993, you provided information regarding the involvement of the San Diego County Environmental Health Department with the Mission Bay Landfill site.

Our contract with the EPA requires documentation of certain telephone conversations concerning the investigation. If a telephone conversation provides information that is important to our analyses, the EPA requires that we obtain concurrence on the accuracy of the information provided.

Attached for your review is a draft of the contact report documenting our telephone conversation. Please review it and make any changes you feel necessary. Please sign and date the form on the "Contact Concurrence" line and return the form to me as soon as possible with your comments in the self-addressed, stamped envelope provided.

I appreciate your assistance. If you have any questions, or wish to discuss this contact report further, please do not hesitate to call me at (415) 768-7111.

Sincerely,

Subbu Mahadevan

Subbu Mahadevan
Site Leader

Attachment

Enclosure

CONTACT REPORT

AGENCY/AFFILIATION: San Diego County		
DEPARTMENT: Environmental Health Department		
ADDRESS: P.O.Box 85261	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92186-5261

CONTACT(S)	TITLE	PHONE
Rebecca Lafreniere	Hazardous Materials Specialist II	(619) 338-2234

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM JJ	DATE: 6/25/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: The Environmental Health ~~Department (EHD)~~ Services Division (EHS) was designated as one of the Local Enforcement Agencies for the Mission Bay Landfill in 1985. Records show that the EHD has conducted site inspections at the Mission Bay Landfill since at least July 1988. The most recent inspection was conducted in March 1993. During the EHD inspections, improper grading of the landfill, which resulted in ponding of water, and differential settlement of the landfill were cited as the most common problems associated with the site. No violations of gaseous emission standards have been noted in any of the EHD inspection records.

CONTACT CONCURRENCE: Rebecca Lafreniere DATE: 7-7-93

Bechtel

50 Beale Street
San Francisco, CA 94105-1895
Mailing address: P.O. Box 193965
San Francisco, CA 94119-3965

May 17, 1993

Rebecca Lafreniere
San Diego County Environmental Health Services
P.O.Box 85261
San Diego, CA 92186-5261

Dear Ms. Lafreniere:

As you know, Bechtel Environmental, Inc. (BEI) is assisting the EPA in assessing potential hazardous waste contamination at various abandoned sites and operating facilities. During our telephone conversation on May 17, 1993, you provided information regarding the involvement of the San Diego County Environmental Health Services with the Mission Bay Landfill.

Our contract with the EPA requires documentation of certain telephone conversations concerning the investigation. If a telephone conversation provides information that is important to our analyses, the EPA requires that we obtain concurrence on the accuracy of the information provided.

Attached for your review is a draft of the contact report documenting your telephone conversation. Please review it and make any changes you feel necessary. Please sign and date the form on the "Contact Concurrence" line and return the form to me as soon as possible with your comments in the self-addressed, stamped envelope provided.

I appreciate your assistance. If you have any questions, or wish to discuss this contact report further, please do not hesitate to call me at (415) 768-7111.

Sincerely,

Subbu Mahadevan
Site Leader

Attachment

Enclosure

CONTACT REPORT

AGENCY/AFFILIATION: San Diego County		
DEPARTMENT: Environmental Health Services, Solid Waste Division		
ADDRESS: P.O.Box 85261	CITY: San Diego	
COUNTY: San Diego	STATE: CA	ZIP: 92186-5261

CONTACT(S)	TITLE	PHONE
Rebecca Lafreniere	Hazardous Materials Specialist II	(619) 338-2234

BEI PERSON MAKING CONTACT: Subbu Mahadevan SM	DATE: 5/17/93
SUBJECT: Agency Involvement	
SITE NAME: Mission Bay Landfill	EPA ID: CAD 980881353

DISCUSSION: The San Diego County Environmental Health Services (EHS) is one of the regulatory agencies that oversees the developments at the Mission Bay Landfill. The EHS conducts site inspections every 3 months, provided they have the staffing. The EHS monitors for gaseous emissions using a Combustible Gas Indicator. The EHS also monitors the landfill for leachate generation and differential settlement, but does not conduct any water sampling. The EHS is involved in Phase II developments at the landfill site. Phase II developments at the site involve the construction of a boat launching basin and regrading of the landfill.

CONTACT CONCURRENCE: Rebecca Lafreniere DATE: 5/25/93

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, California 94105

SEP 16 1993

Rebecca Lafreniere
County of San Diego
Environmental Health Department
P.O. Box 85261
San Diego, California 92186-5261

Mission Bay L.F.

Dear Sir/Madam:

Enclosed please find the Site Assessment report prepared for EPA concerning the CERCLA evaluation for this site.

EPA encourages your written comments on this report. Your comments should be sent to Michael Bellot, Site Assessment Manager, EPA mail stop H-8-1. If you have any questions please contact him at (415)744-2405.

Sincerely,

Thomas A. Mix, Chief
Site Evaluation and Grants Section

Enclosure

PA

United States Environmental Protection Agency | Office of Solid Waste and Emergency Response | Publication 9345.4-03FS | September 1993

EPA

SITE ASSESSMENT:
Evaluating Risks at Superfund Sites

Office of Emergency and Remedial Response
Hazardous Site Evaluation Division 5204G

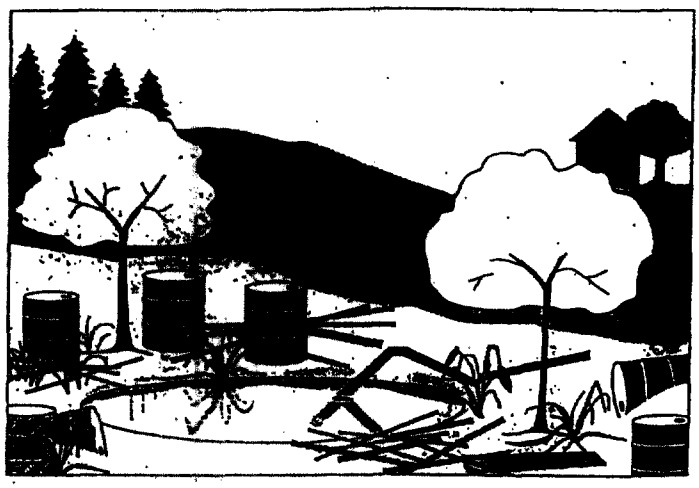
Quick Reference Fact Sheet

The Challenge of the Superfund Program

A series of headline-grabbing stories in the late 1970s, such as Love Canal, gave Americans a crash course in the perils of ignoring hazardous waste. At that time, there were no Federal regulations to protect the country against the dangers posed by hazardous substances (mainly industrial chemicals, accumulated pesticides, cleaning solvents, and other chemical products) abandoned at sites throughout the nation. And so, in 1980 Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, to address these problems.

The major goal of the Superfund program is to protect human health and the environment by cleaning up areas, known as "sites," where hazardous waste contamination exists. The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Superfund program.

At the time it passed the Superfund law, Congress believed that the problems associated with uncontrolled releases of hazardous waste could be handled in five years with $1.6 billion dollars. However, as more and more sites were identified, it became apparent that the problems were larger than anyone had originally believed. Thus, Congress passed the Superfund Amendments and Reauthorization Act (SARA) in 1986. SARA expanded and strengthened the authorities given to EPA in the original legislation and provided a budget of $8.5 billion over five years. Superfund was extended for another three years in 1991.



What is EPA's Job at Superfund Sites?

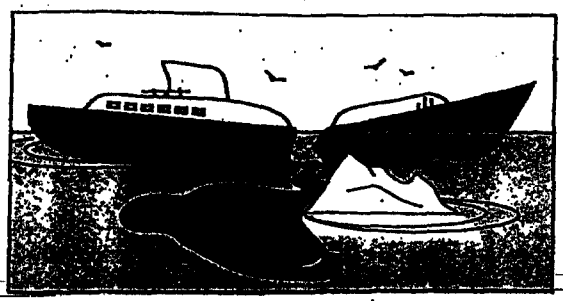
For more than 10 years, EPA has been implementing the Superfund law by:

- Evaluating potential hazardous waste sites to determine if a problem exists;
- Finding the parties who caused the hazardous waste problems and directing them to address these problems under EPA oversight or requiring them to repay EPA for addressing these problems; and
- Reducing immediate risks and tackling complex hazardous waste problems.

The Superfund site assessment process generally begins with the discovery of contamination at a site and ends with the completion of remediation (i.e., cleaning up the waste at a site) activities. This fact sheet explains the early part of the process, called the *site assessment* phase.

The National Response Center

The National Response Center (NRC), staffed by Coast Guard personnel, is the primary agency to contact for reporting all oil, chemical, and biological discharges into the environment anywhere in the U.S. and its territories. It is responsible for:



- Maintaining a telephone hotline 365 days a year, 24 hours a day;
- Providing emergency response support in specific incidents; and
- Notifying other Federal agencies of reports of pollution incidents.

To report a pollution incident, such as an oil spill, a pipeline system failure, or a transportation accident involving hazardous material, call the NRC hotline at **800-424-8802.**

1 Site Discovery

Hazardous waste sites are discovered in various ways. Sometimes concerned residents find drums filled with unknown substances surrounded by dead vegetation and call the NRC, EPA, or the State environmental agency; or an anonymous caller to the NRC or EPA reports suspicious dumping activities. Many sites come to EPA's attention through routine inspections conducted by other Federal, State, or local government officials. Other sites have resulted from a hazardous waste spill or an explosion. EPA enters these sites into a computer system that tracks any future Superfund activities.

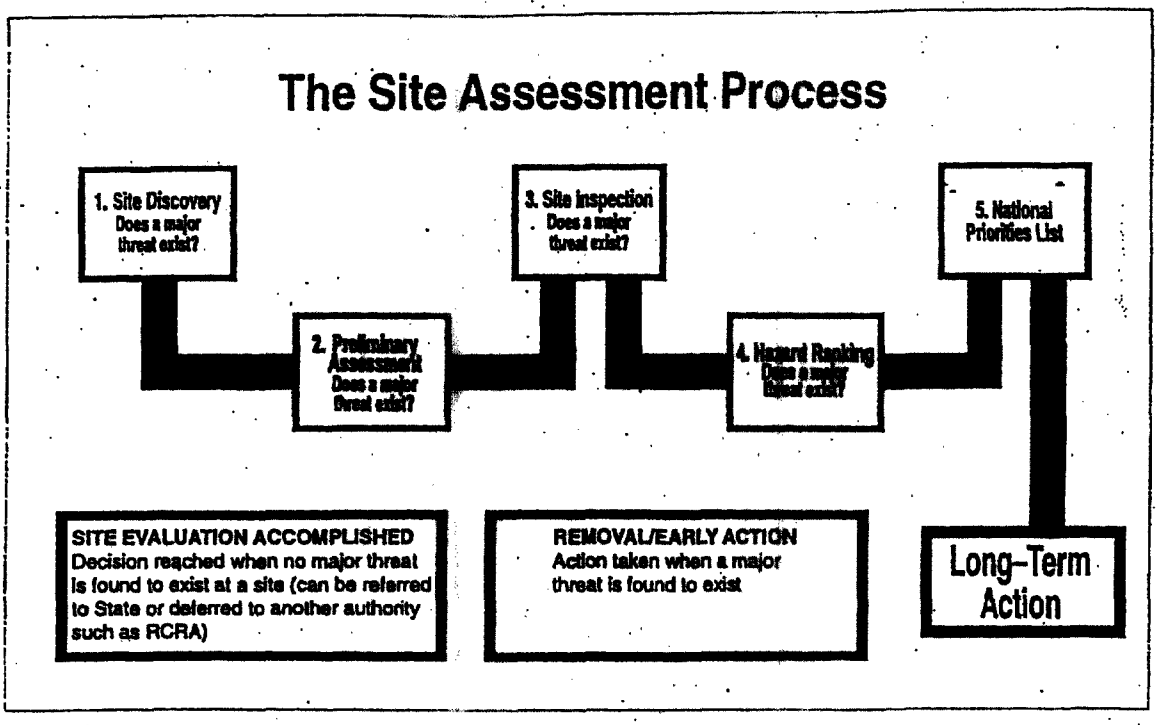
2 Preliminary Assessment

After learning about a site, the next step in the site assessment process is to gather existing information about the site. EPA calls this the *preliminary assessment*. Anyone can request that a preliminary assessment be performed at a site by petitioning EPA, the State environmental agency, local representatives, or health officials.

During the preliminary assessment, EPA or the State environmental agency:

- Reviews available background records;
- Determines the size of the site and the area around it;
- Tries to determine whether hazardous substances are involved;
- Identifies actual or potential pollution victims, such as the nearby population and sensitive environments;
- Makes phone calls or interviews people who may be familiar with the site; and
- Evaluates the need for early action using EPA's removal authority.

By gathering information and possibly visiting the site, EPA or the State environmental agency is able to determine if major threats exist and if cleanup is needed. Many times, the preliminary assessment indicates that no major threats exist.



However, if hazardous substances do pose an immediate threat, EPA quickly acts to address the threat. When a site presents an immediate danger to human health or the environment—for example, there is the potential for a fire or an explosion or the drinking water is contaminated as a result of hazardous substances leaking out of drums—EPA can move quickly to address site contamination. This action is called a *removal* or an *early action*. Additional information on early actions can be found on page 4.

EPA or the State environmental agency then decides if further Federal actions are required. Of the more than 35,000 sites discovered since 1980, only a small percentage have needed further remedial action under the Federal program.

A report is prepared at the completion of the preliminary assessment. The report includes a description of any hazardous substance release, the possible source of the release, whether the contamination could endanger people or the environment, and the pathways of the release. The information outlined in this report is formed into hypotheses that are tested if further investigation takes place. You can request a copy of this report once it becomes final—just send your name and address to your EPA regional Superfund office. See page 8 for further information on these contacts.

Sometimes it is difficult to tell if there is contamination at the site based on the initial information gathering. When this happens, EPA moves on to the next step of the site assessment, called the *site inspection*.

Making Polluters Pay

One of the major goals of the Superfund program is to have the responsible parties pay for or conduct remedial activities at hazardous waste sites. To accomplish this goal, EPA:

- Researches and determines who is responsible for contaminating the site;
- Issues an order requiring the private parties to perform cleanup actions with EPA oversight; and
- Recovers costs that EPA spends on site activities from the private parties.

Removals/Early Actions

EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment. These actions are called *removals* or *early actions* because EPA rapidly eliminates or reduces the risks at the site. EPA can take a number of actions to reduce risks, including:

- Fencing the site and posting warning signs to secure the site against trespassers;
- Removing, containing, or treating the source of the contamination;
- Providing homes and businesses with safe drinking water; and, as a last resort,
- Temporarily relocating residents away from site contamination.

"EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment."

3 Site Inspection

If the preliminary assessment shows that hazardous substances at the site may threaten residents or the environment, EPA performs a site inspection. During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water. EPA may initiate a concurrent SI/remedial investigation at those sites that are most serious and determined early as requiring long-term action. Sometimes, wells have to be drilled to sample the ground water. Site inspectors may wear protective gear, including coveralls and respirators, to protect themselves against any hazardous substances present at the site. Samples collected during the site inspection are sent to a laboratory for analysis to help EPA answer many questions, such as:

- Are hazardous substances present at the site? If so, what are they, and approximately how much of each substance is at the site?
- Have these hazardous substances been released into the environment? If so, when did the releases occur, and where did they originate?
- Have people been exposed to the hazardous substances? If so, how many people?
- Do these hazardous substances occur naturally in the immediate area of the site? At what concentrations?
- Have conditions at the site gotten worse since the preliminary assessment? If so, is an early action or removal needed? (See box above.)

Often, the site inspection indicates that there is no release of major contamination at the site, or that the hazardous substances are safely contained and have no possibility of being released into the environment. In these situations, EPA decides that no further Federal inspections or remedial actions are needed. This decision is referred to as *site evaluation accomplished.* (See page 5 for more details on the *site evaluation accomplished* decision.)

At the completion of the site inspection, a report is prepared. This report is available to the public–call your EPA regional Superfund office for a copy. See page 8 for the phone numbers of these offices.

"During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water."

At sites with particularly complex conditions, EPA may need to perform a second SI to obtain legally defensible documentation of the releases.

Because EPA has limited resources, a method has been developed to rank the sites and set priorities throughout the nation. That method, known as the *Hazard Ranking System*, is the next step in the site assessment process.

4 Hazard Ranking System

EPA uses the information collected during the preliminary assessment and site inspection to evaluate the conditions at the site and determine the need for long-term remedial actions. When evaluating the seriousness of contamination at a site, EPA asks the following questions:

- Are people or sensitive environments, such as wetlands or endangered species, on or near the site?
- What is the toxic nature and volume of waste at the site?
- What is the possibility that a hazardous substance is in or will escape into ground water, surface water, air, or soil?

Based on answers to these questions, each site is given a score between zero and 100. Sites that score 28.5 or above move to the next step in the process: listing on the *National Priorities List*. Sites that score below 28.5 are referred to the State for further action.

Site Evaluation Accomplished

In many instances, site investigators find that potential sites do not warrant Federal action under the Superfund program. This conclusion can be attributed to one of two reasons:

- The contaminants present at the site do not pose a major threat to the local population or environment; or
- The site should be addressed by another Federal authority, such as EPA's Resource Conservation and Recovery Act (RCRA) hazardous waste management program.

When investigators reach this conclusion, the site evaluation is considered accomplished. A site can reach this point at several places during the site assessment process, namely at the conclusion of the preliminary assessment or the site inspection, or once the site is scored under the Hazard Ranking System.

5 National Priorities List

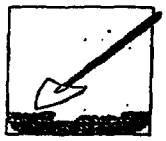
Sites that are listed on the *National Priorities List* present a potential threat to human health and the environment, and require further study to determine what, if any, remediation is necessary. EPA can pay for and conduct remedial actions at NPL sites if the responsible parties are unable or unwilling to take action themselves. There are three ways a site can be listed on the National Priorities List:

- It scores 28.5 or above on the Hazard Ranking System;
- If the State where the site is located gives it top priority, the site is listed on the National Priorities List regardless of the HRS score; or
- EPA lists the site, regardless of its score, because all of the following are true about the site:[6]
  - The Agency for Toxic Substances and Disease Registry (ATSDR), a group within the U.S. Public Health Service, issues a health advisory recommending that the local population be *dissociated* from the site (i.e., that the people be temporarily relocated or the immediate public health threat be removed);
  - EPA determines that the site poses a significant threat to human health; and
  - Conducting long-term remediation activities will be more effective than addressing site contamination through early actions.

The list of proposed sites is published in the *Federal Register*, a publication of legal notices issued by Federal agencies. The community typically has 60 days to comment on the list. After considering all comments, EPA publishes a list of those sites that are officially on the National Priorities List. When a site is added to the National Priorities List, the site assessment is completed. Long-term actions take place during the next phase. See page 6 for more details on long-term actions.

As a Concerned Citizen, How Can I Help ?

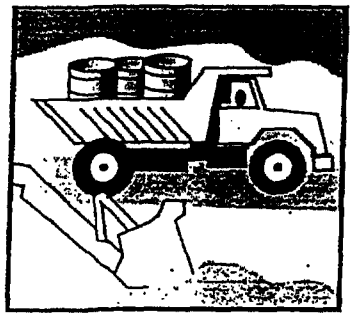
- Read this fact sheet.
- Call EPA with any potential sites in your area.
- Provide EPA with site information.
- Comment on proposed listing of sites on the National Priorities List.
- If the site is listed on the NPL, work with your citizens' group to apply for a technical assistance grant.



Addressing Sites in the Long Term

Once a site is placed on the National Priorities List, it enters the long-term or remedial phase. The stages of this phase include:

- ✓ Investigating to fully determine the nature and extent of contamination at the site, which can include a public health assessment done by the ATSDR;
- ✓ Exploring possible technologies to address site contamination;
- ✓ Selecting the appropriate technologies—also called remedies;
- ✓ Documenting the selected remedies in a record of decision (ROD);
- ✓ Designing and constructing the technologies associated with the selected remedies;
- ✓ If necessary, operating and maintaining the technologies for several years (e.g., long-term treatment of ground water) to ensure safety levels are reached; and
- ✓ Deleting the site from the National Priorities List, completing Superfund's process and mission.



Some Commonly Asked Quest

Q: What exactly is a site?

A: EPA designates the area in which contamination exists as the "site." Samples are taken to define the area of contamination. At any time during the cleanup process th site may be expanded if contamination is discovered to ha spread further.

Q: How long will it take to find out if a threat exists?

A: Within one year of discovering the site, EPA must perform preliminary assessment. The preliminary assessment allc EPA to determine if there is an immediate danger at the si if so, EPA takes the proper precautions. You will be notifi if you are in danger. EPA may also contact you to deterr what you know about the site.

Q: What is the State's role in all these investigations?

A: The State can take the lead in investigating and addressin contamination. It also provides EPA with background information on (1) immediate threats to the population or environment, and (2) any parties that might be responsible for site contamination. The State shares in the cost of any long-term actions conducted by the Superfund program, comments on the proposal of sites to the National Priorities List, and concurs on the selected remedies and final delet of sites from the National Priorities List.

Q: Why are private contractors used to assess sites?

A: EPA has a limited workforce. By using private contractors EPA is able to investigate more sites. Also, EPA is able tc draw on the expertise of private contracting companies.

Q: Why are there so many steps in the evaluation proces Why can't you just take away all the contaminated materials right now, just to be safe?

A: When EPA assesses a site, it first determines if contamination poses any threats to the health of the local population and the integrity of the environment. Dealing w worst sites first is one of Superfund's national goals. By evaluating contamination in a phased approach, EPA can quickly identify sites that pose the greatest threats and mo them through the site assessment process. Once EPA understands the conditions present at a site, it searches fc the remedy that will best protect public health and the environment. Cost is only one factor in weighing equally protective remedies. Many sites do not warrant actions because no major threat exists. However, if a significant threat does exist, EPA will take action.

about Superfund Sites

Q: **If a site is added to the National Priorities List, how will we know when EPA has completed the cleanup efforts?**

A: EPA notifies the public and requests their comments on the actions proposed to treat site contaminants. In addition, the community is notified when a site will be deleted from the National Priorities List. The entire process can take as long as 7 years; at sites where ground water is contaminated, it can take even longer.

Q: **I live next door to a site and I see EPA and contractor personnel wearing "moon suits." Am I safe?**

A: EPA and contractor personnel wear protective gear because they might actually be handling hazardous materials. Also, these people are regularly exposed to contaminants at different sites and do not always know what contaminants they are handling. EPA takes steps to protect the public from coming in contact with the site contamination. If a dangerous situation arises, you will be notified immediately.

Q: **If a site is added to the National Priorities List, who pays for the activities?**

A: EPA issues legal orders requiring the responsible parties to conduct site cleanup activities under EPA oversight. If the parties do not cooperate, Superfund pays and files suit for reimbursement from responsible parties. The sources of this fund are taxes on the chemical and oil industries; only a small fraction of the fund is generated by income tax dollars.

Q: **How can I get more information on any health-related concerns?**

A: Contact your EPA regional Superfund office for more information. The ATSDR also provides information to the public on the health effects of hazardous substances. Ask your EPA regional Superfund office for the phone number of the ATSDR office in your region.

Q: **How can I verify your findings? What if I disagree with your conclusions?**

A: You can request copies of the results of the site assessment by writing to your EPA regional Superfund office. The public is given the opportunity to comment on the proposal of a site to the National Priorities List and the actions EPA recommends be taken at the site. If a site in your community is listed on the National Priorities List, a local community group may receive grant funds from EPA to hire a technical advisor. Call your EPA regional Superfund office (see page 8) for the location of an information repository and for information on applying for a **technical assistance grant.**

Q: **How can I get further information? How can I get a list of the sites EPA has investigated?**

A: Contact your EPA regional Superfund office (see page 8) for more information and a list of sites in your area.

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Important Phone Numbers

For information on the Superfund program or to report a hazardous waste emergency, call the national numbers below.

U.S. EPA Headquarters Hazardous Site Evaluation Division

- Site Assessment Branch
  703-603-8860

Federal Superfund Program Information

- EPA Superfund Hotline
  800-424-9346

Emergency Numbers:

Hazardous Waste Emergencies

- National Response Center
  800-424-8802

ATSDR Emergency Response Assistance

- Emergency Response Line
  404-639-0615

For answers to site-specific questions and information on opportunities for public involvement, contact your region's Superfund community relations office.

EPA Region 1: *Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont*

- Superfund Community Relations Section
  617-565-2713

EPA Region 2: *New Jersey, New York, Puerto Rico, Virgin Islands*

- Superfund Community Relations Branch
  212-264-1407

EPA Region 3: *Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia*

- Superfund Community Relations Branch
  800-438-2474

EPA Region 4: *Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee*

- Superfund Site Assessment Section
  404-347-5065

EPA Region 5: *Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin*

- Office of Superfund
  312-353-9773

EPA Region 6: *Arkansas, Louisiana, New Mexico, Oklahoma, Texas*

- Superfund Management Branch, Information Management Section
  214-655-6718

EPA Region 7: *Iowa, Kansas, Missouri, Nebraska*

- Public Affairs Office
  913-551-7003

EPA Region 8: *Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming*

- Superfund Community Involvement Branch
  303-294-1124

EPA Region 9: *Arizona, California, Hawaii, Nevada, American Samoa, Guam*

- Superfund Office of Community Relations
  800-231-3075

EPA Region 10: *Alaska, Idaho, Oregon, Washington*

- Superfund Community Relations
  206-553-2711

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***** CONFIDENTIAL *****
***** PREDECISIONAL DOCUMENT *****

SUMMARY SCORESHEET FOR COMPUTING PROJECTED PROPOSED REVISED HRS SCORE

SITE NAME: Mission Bay Landfill

CITY, COUNTY: San Diego, San Diego

EPA ID #: CAD 980881353 **Lat/Long:** 32°45'50/117°12'30"

PROGRAM ACCOUNT #: FCA12283BA **T/R/S:**

EVALUATOR: Kate Dragolovich **DATE:** 6/19/90

THIS SCORESHEET IS FOR A: PA ___ SSI ___ LSI ___

SIRe ___ PA Redo ___ Other (Specify) LSI Prioritization

RCRA STATUS (check all that apply):

___ Generator ___ Small Quantity Generator ___ Transporter ___ TSDF

✓ Not Listed in RCRA Database as of (date of printout): 5/8/90

STATE SUPERFUND STATUS: This site has not been included in the BEP, as of the 6/10/90 update.

___ BEP (date) / / ___ WQARF (date) / /

	S pathway	S^2 pathway
Air Migration Pathway Score (S_a)	27.16	737.67
Groundwater Migration Pathway Score (S_{gw})	0	0
Surface Water Migration Pathway Score (S_{sw})	66.68	4,446.22
On-site Exposure Pathway Score (S_{os})	100	10,000
$S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os}$		15,183.89
$(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4$		3,795.97
$\sqrt{(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4}$		61.61

-Pathways not evaluated (explain): ___

rhrs/june90

GROUNDWATER

Due to salt water intrusion, groundwater in the Mission Bay area is brackish and not usable.

References: l

SURFACE WATER

9. The City of San Diego has been sampling the surface water of Mission Bay, near the landfill, semi-annually since 1985. These efforts are part of an ongoing surface water and groundwater monitoring program that is required by RWQCB. However, RWQCB was not able to make the results of these sampling events available to FIT. It is therefore not known if a release can be documented to surface water.

   References: m,n,o

10. Although the landfill is covered with soil that ranges in thickness from 1.5 to 16 feet across the site, this soil cover does not constitute an engineered. Furthermore, this cover is contaminated. In addition, the landfill is unlined and has no runoff management system.

    References: a

11. The 2-year, 24-hour rainfall for the San Diego area is 1.6 inches. Since the landfill cover is typically made up of fine to medium sands and supports patchy areas of scrub brush and grass, the runoff curve number is 50. The drainage area of the landfill occupies approximately 115 acres, which results in a drainage area value of 2. The rainfall/runoff curve number value is therefore 0 and the runoff factor value is 2.

    References: a,p

12. The landfill is on the southern shore of Mission Bay.

    References: a

13. The landfill has not been certified by a professional engineer for flood control containment.

    References: a

14. The area that the site is located in does not flood.

    References: q

15. Due to salinity, Mission Bay and the Pacific Ocean are not used for drinking, irrigation, commercial, or industrial purposes within 15 miles of the site.

    References: l

COMPLETE
DOCUMENT
AVAILABLE